

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST

DEFENSE ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

Project:	Americium/Curium Vitrification, Savannah River Site, South Carolina	1. 2a. Project No.: 96-EXP 2b. Operating Expense Funded	Title and Location of ADS# SR-6960-1
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SIGNIFICANT CHANGES

- The Americium/Curium Vitrification Program has been extended to FY 1999 due to unplanned additional engineering design work required for the Am/Cm vitrification melter, delays in completing the pre-treatment process and other scheduled work in F-Canyon; reductions in contingency funding; and longer than anticipated lead times to procure and install equipment associated with Am/Cm vitrification.
- The FY 1997, FY 1998 and FY 1999 funding profiles are approximate. A complete rebaselining of this project will be forthcoming.

DEPARTMENT OF ENERGY  
 FY 1998 CONGRESSIONAL BUDGET REQUEST  
 (Changes from the FY 1997 Congressional Budget Request are denoted by a vertical line in the left margin.)

DEFENSE ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

Project:	Americium/Curium Vitrification, Savannah River Site, South Carolina	1. 2a. Project No.: 96-EXP <u>a/</u> 2b. Operating Expense Funded	Title and Location of ADS# SR-6960-1
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3a. Date A-E Work Initiated: 2nd Qtr. FY 1996	5. Previous Cost Estimate: Total Estimated Cost (TEC) -- \$29,230
3b. A-E Work (Titles I & II) Duration: 12 months	Total Project Cost (TPC) -- \$40,500

4a. Date Physical Construction Starts: 3rd Qtr. FY 1996	6. Current Cost Estimate: TEC -- \$29,230
4b. Date Phase I Construction Ends: 2nd Qtr. FY 1999	TPC -- \$40,500 <u>b/</u>

7. Financial schedule (Federal Funds)

<u>Fiscal Year</u>	<u>Appropriation a/</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1996	\$ 6,355	\$ 0	\$ 6,355	\$ 6,355
1997	9,840	0	9,840	9,840
1998	12,230	0	12,230	12,230
1999	805	0	805	805

a/ It should be noted that this project is justified as an operating expense funded project data sheet prepared to comply with the reviewed DOE Order 5100.3.

b/ Estimates of project costs are based on conceptual design.

		1.
Title and Location of Project:	Americium/Curium Vitrification, Savannah River Site, South Carolina	2a. Project No.: 96-EXP 2b. Operating Expense Funded

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8. Project Description, Justification and Scope

This project proposes the vitrification of the F-Canyon americium/curium (Am/Cm) solutions into borosilicate glass via a melter to be installed in the Multi-Purpose Processing Facility (MPPF) of the 221 F-Canyon. This project would provide for the development and design of the vitrification process, the design of the associated building infrastructure interfaces and the construction and installation of the equipment. This project would provide for the refurbishing of the existing MPPF facility to accommodate the new equipment.

Approximately 15,000 liters of solution containing the valuable isotopes 243 Am and 244 Cm have been accumulated in the 221 F-facility from recovery campaigns that began in the mid-1970s. These solutions have been identified in several documents as a vulnerability and as such require stabilization. These documents include the Defense Nuclear Facilities Safety Board Recommendation 94-1 and the Plutonium Environment, Safety and Health Vulnerability Assessment Report. There is no reasonable method to transport this material in solution from outside of F-Canyon. Due to intense radiation source of the material, a heavily shielded, remotely operated facility is required for handling and processing. There is no existing operable process to convert this solution to a solid form for safe storage or transport to the National Heavy Element and Advanced Neutron Sources (ANS) Programs at the Oak Ridge National Laboratory. An analysis of several alternatives has resulted in this project to develop the process to stabilize the solutions by vitrification into a glass form. The facility most suitable for installing vitrification equipment to stabilize this solution is the MPPF.

| The FY 1998 funds will be used to continue construction of the demonstration project and prepare readiness assessment for startup.

		1.
Title and Location of Project:	Americium/Curium Vitrification, Savannah River Site, South Carolina	2a. Project No.: 96-EXP 2b. Operating Expense Funded

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9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and management costs .....		\$ 5,540
1. Engineering design and inspection at approximately 31.8 percent of construction costs (item c) (Design, Drawings, and Specifications) .....	\$ 4,015	
2. Construction management costs is approximately 6.9 percent of construction costs (item c) .....	870	
3. Project management is 5.2 percent of construction costs (item c) .....	655	
b. Land and land rights .....		0
c. Construction costs .....		12,640
1. Improvements to land .....	0	
2. Buildings .....	0	
3. Other structures (includes demolition) .....	0	
4. Utilities .....	0	
5. Special facilities .....	12,640	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		0
h. Subtotal (a through g) .....		\$ 18,180
I. Contingencies at approximately 61 percent of above costs .....		<u>11,050</u>
j. Total line item cost (section 11.a.1.[a]) .....		29,230
k. Less: Non-Federal contribution .....		<u>0</u>
l. Net Federal total estimated cost (TEC) .....		<u>\$ 29,230</u>

The DOE escalation rates (percent per year) used for this estimate are as follows:

<u>Fiscal Year</u>	<u>FY 1997</u>	<u>FY 1998</u>
Escalation	3.0	3.1

The above estimate includes \$720,000 for escalation.

1.		
Title and Location of Project:	Americium/Curium Vitrification, Savannah River Site, South Carolina	2a. Project No.: 96-EXP 2b. Operating Expense Funded
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10. Method of Performance

Design and construction shall be performed by the Management and Operating (M&O) Contractor or a subcontractor under the direction of the M&O contractor.

11. Schedule of Project Funding and Other Related Funding Requirements

	Previous Years	FY 1996	FY 1997	FY 1998	Outyears	TOTAL
a. Total project costs						
1. Total facility costs						
(a) Line item (Section 9.j.) . . . . .	\$ 0	\$ 6,355	\$9,840	\$12,230	\$ 805	\$29,230
(b) Plant engineering and design . . . . .	0	0	0	0	0	0
(c) Operating expense funded equipment 0	0	0	0	0	0	0
(d) Inventories . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total facility costs (Federal . . . . . and Non-Federal) . . . . .	\$ 0	\$ 6,355	\$9,840	\$12,230	\$ 805	\$29,230
2. Other project costs						
(a) R&D necessary to complete project .	\$ 0	\$ 2,500	\$ 400	\$ 0	\$ 0	\$ 2,900
(b) Conceptual design costs . . . . .	0	300	0	0	0	300
(c) Decontamination and decommissioning (D&D)	0	0	0	0	0	0
(d) NEPA documentation costs . . . . .	0	100	0	0	0	100
(e) Other project-related costs . . . . .	<u>0</u>	<u>1,440</u>	<u>3,260</u>	<u>3,270</u>	<u>0</u>	<u>7,970</u>
(f) Total other project costs . . . . .	\$ <u>0</u>	\$ <u>4,340</u>	\$ <u>3,660</u>	\$ <u>3,270</u>	\$ <u>0</u>	\$ <u>11,270</u>
(g) Total project costs . . . . .	\$ 0	\$10,695	\$13,500	\$15,500	\$ 805	\$40,500
(h) Less: Non-federal contribution . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal total project cost (TPC) .	\$ 0	\$10,695	\$13,500	\$15,500	\$ 805	\$40,500

		1.
Title and Location of Project:	Americium/Curium Vitrification, Savannah River Site, South Carolina	2a. Project No.: 96-EXP 2b. Operating Expense Funded
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11. Schedule of Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs	
1. Facility operating costs . . . . .	\$ 2,400
2. Facility maintenance and repair costs . . . . .	100
3. Programmatic operating expenses directly related to the facility . . . . .	0
4. Capital equipment not related to construction but related to the programmatic effort in the facility . . . . .	0
5. GPP or other construction related to the programmatic effort in the facility . . . . .	0
6. Utility costs . . . . .	100
7. Other costs . . . . .	0
Total related annual costs . . . . .	<u>\$ 2,600</u>

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

- a. Total project funding
  - 1. Total facility costs
    - (a) Line item--Narrative not required.
    - (b) Plant engineering and design--None.
    - (c) Expense-funded equipment--None.
    - (d) Inventories--None.
  - 2. Other project costs
    - (a) R&D necessary to complete construction--Includes cost associated with the development of the vitrification process (\$2,900,000).
    - (b) Conceptual design--The conceptual design was completed in November 1995 at a cost of \$300,000.
    - (c) Decontamination and decommissioning (D&D)--None.
    - (d) NEPA documentation--Includes cost associated in complying with NEPA 1969 (\$100,000).
    - (e) Other project-related costs--Includes all costs associated with the process development, training, procedures and facility support during construction of the project including Radcon protection (\$7,970,000).

		1.
Title and Location of Project:	Americium/Curium Vitrification, Savannah River Site, South Carolina	2a. Project No.: 96-EXP 2b. Operating Expense Funded
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12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (Continued)

b. Related annual funding

1. Facility operating costs--The operating life of this facility will be approximately 6 months. The staffing costs associated with this are expected to be \$2,400,000 (12 FTEs).
2. Facility maintenance and repair costs--The costs for maintenance are expected to be approximately \$100,000.
3. Programmatic operating expenses directly related to the facility--None.
4. Capital equipment cost not related to construction but related to the programmatic effort in the facility--None.
5. GPP or other construction related to the programmatic effort in the facility--None.
6. Utility costs--Costs will not exceed \$100,000.
7. Other costs--None.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
NATIONAL DEFENSE ASSET ACQUISITION

(Tabular dollars in thousands. Narrative in whole dollars)

ENVIRONMENTAL MANAGEMENT

PROGRAM MISSION

The Administration is proposing a new appropriation account in FY 1998 in response to the Government Performance and Results Act of 1993, the Federal Acquisition Streamlining Act of 1994, and the Information Technology Management Reform Act of 1996. Each of these laws are designed to improve the way in which the government plans, budgets, acquires and accounts for fixed assets.

Fixed asset funding under the Environmental Management program provides for refurbishing or replacing inadequate facilities and infrastructure to meet modern environmental compliance requirements. Support is provided to various Environmental Management sites and installations. Budget authority of \$642,664,000 million is requested to fully fund completion of three new projects and 21 on-going projects.

The following tables display the projects requested in FY 1998 by the Environmental Management Program they support and by field office. After the tabular material are the individual construction project data sheets describing the project and relaying pertinent financial data.



DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
NATIONAL DEFENSE ASSET ACQUISITION  
(Dollars in Thousands)

ENVIRONMENTAL MANAGEMENT

LEAD TABLE  
Construction Summary

<u>Project No.</u>	<u>Project Title</u>	<u>TEC</u>	<u>Previous Approp.</u>	<u>FY 1996 Approp.</u>	<u>FY 1997 Approp.</u>	<u>FY 1998 Request</u>	<u>FY 1999 Request</u>	<u>Unapprop Balance</u>
<b>Waste Management</b>								
98-D-401	H-Tank Farm Storm Water Systems Upgrade, SR	\$12,000	\$0	\$0	\$0	\$12,000	\$0	\$0
97-D-402	Tank Farm Restoration and Safe Operations, RL	206,000	a/	a/	a/	41,530	51,795	105,091
96-D-408	Waste Management Upgrades, VL	26,470	a/	a/	a/	12,709	0	0
95-D-402	Install Permanent Electrical Service, WIPP	5,942	a/	a/	a/	176	0	0
95-D-405	Industrial Landfill V, OR	9,600	a/	a/	a/	3,800	0	0
95-D-407	219-S Secondary Containment Upgrade, RL	5,100	a/	a/	a/	2,500	0	0
94-D-404	Melton Valley Storage Tanks Capacity Increase, ORNL	48,000	a/	a/	a/	1,219	0	0
94-D-407	Initial Tank Retrieval Systems, RL	205,380	a/	a/	a/	182,800	0	0
93-D-187	High-Level Waste Removal from Filled Waste Tanks, SR	558,050	a/	a/	a/	171,969	40,142	101,762
92-D-172	Hazardous Waste Treatment and Processing Fac. , AL	6,000	a/	a/	a/	5,000	0	0

NATIONAL DEFENSE ASSETS ACQUISITION (cont'd)

<u>Project No.</u>	<u>Project Title</u>	<u>TEC</u>	<u>Previous Approp.</u>	<u>FY 1996 Approp.</u>	<u>FY 1997 Approp.</u>	<u>FY 1998 Request</u>	<u>FY 1999 Request</u>	<u>Unapprop Balance</u>
<b>Waste Management</b>								
89-D-174	Replacement High-Level Waste Evaporator, SR	118,024	a/	a/	a/	1,042	0	0
86-D-103	Decontamination & Waste Treatment Facility, LLNL	<u>68,005</u>	a/	a/	a/	<u>23,573</u>	<u>0</u>	<u>0</u>
	<b>Subtotal, Waste Management</b>	1,268,571				458,318	91,937	206,853
<b>Nuclear Material and Facility Stabilization</b>								
98-D-453	Plutonium Stabilization and Handling System for PFP, RL	27,200	0	0	0	13,636	13,564	0
98-D-700	INEL Road Rehabilitation, INEL	10,800	0	0	0	10,800	0	0
97-D-450	Actinide Packaging & Storage Facility, SR	109,838	a/	a/	a/	18,000	83,938	0
97-D-451	B-Plant Safety Class Ventilation Upgrades, RL	3,500	a/	a/	a/	2,000	0	0
97-D-470	Environmental Monitoring Laboratory, SR	30,280	a/	a/	a/	27,780	0	0
97-D-473	Health Physics Site Support Facility, SR	17,200	a/	a/	a/	15,200	0	0
96-D-406	Spent Nuclear Fuels Canister Storage & Stab. Fac, RL	120,416	a/	a/	a/	16,744	0	0
96-D-461	Electrical Distribution Upgrade, INEL	10,756	a/	a/	a/	2,927	0	0

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a/ Appropriated under Defense Environmental Restoration and Waste Management Appropriation.

NATIONAL DEFENSE ASSETS ACQUISITION (cont'd)

<u>Project No.</u>	<u>Project Title</u>	<u>TEC</u>	<u>Previous Approp.</u>	<u>FY 1996 Approp.</u>	<u>FY 1997 Approp.</u>	<u>FY 1998 Request</u>	<u>FY 1999 Request</u>	<u>Unapprop Balance</u>
<b>Nuclear Material and Facility Stabilization (cont'd)</b>								
96-D-464	Electrical & Utility Systems Upgrade, ICPP	53,452	a/	a/	a/	38,500	0	0
96-D-471	CFC HVAC/Chiller Retrofit, SR	45,000	a/	a/	a/	34,959	0	0
95-D-155	Upgrade Site Road Infrastructure, SR	10,500	a/	a/	a/	2,713	0	0
95-D-456	Security Facilities Consolidation, ICPP	15,100	a/	a/	a/	1,087	0	0
90-D-149	Plantwide Fire Protection	<u>420,000</u>	a/	a/	a/	<u>0</u>	<u>62,500</u>	<u>193,765</u>
<b>Subtotal, Nuclear Material and Facility Stabilization</b>		874,042				184,346	160,002	193,765
<b>FY 1999 NEW STARTS</b>		<u>0</u>				<u>0</u>	<u>58,061</u>	<u>224,438</u>
<b>TOTAL, ENVIRONMENTAL MANAGEMENT NATIONAL DEFENSE ASSET ACQUISITION</b>		<u>\$2,142,613</u>				<u>\$642,664</u>	<u>\$310,000</u>	<u>\$625,056</u>

a/ Appropriated under Defense Environmental Restoration and Waste Management Appropriation.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
NATIONAL DEFENSE ASSET ACQUISITION  
(Dollars in Thousands)

ENVIRONMENTAL MANAGEMENT

SITE TABLE

<u>SITE</u>	<u>FY 1998 REQUEST</u>	<u>UNAPPROP. BALANCE</u>
<b>Albuquerque Operations Office</b>		
92-D-172 Hazardous Waste Treatment and Processing Facility (WM)	5,000	0
95-D-402 Install Permanent Electrical Service WIPP (WM)	176	0
<b>Idaho Operations Office</b>		
95-D-456 Security Facilities Consolidation (NMFS)	1,087	0
96-D-461 Electrical Distribution Upgrade (NMSO)	2,927	0
96-D-464 Electrical & Utility Systems Upgrade (NMFS)	38,500	0
98-D-700 INEL Road Rehabilitation (NMSO)	10,800	0
<b>Oakland Operations Office</b>		
86-D-103 Decontamination & Waste Treatment Facility (WM)	23,573	0
<b>Oak Ridge Operations Office</b>		
94-D-404 Melton Valley Storage Tank Capacity Incr. (WM)	1,219	0
95-D-405 Industrial Landfill V (WM)	3,800	0

NATIONAL DEFENSE ASSET ACQUISITION - SITE TABLE (cont'd)

<u>SITE</u>	<u>FY 1998 REQUEST</u>	<u>UNAPPROP. BALANCE</u>
<b>Richland Operations Office</b>		
94-D-407 Initial Tank Retrieval Systems (WM)	182,800	0
95-D-407 219-S Secondary Containment Upgrade (WM)	2,500	0
96-D-406 SNF Canister Storage and Stabilization Facility (NMFS)	16,744	0
96-D-408 Waste Management Upgrades, (WM)	4,571	0
97-D-402 Tank Farm Restoration and Safe Operations (WM)	41,530	156,886
97-D-451 B Plant Safety Class Ventilation Upgrades, (NMFS)	2,000	0
98-D-453 PU Stabilization and Handling System for PFP, (NMFS)	13,636	13,564
<b>Savannah River Operations Office</b>		
89-D-174 Replacement High-Level Waste Evaporator (WM)	1,042	0
90-D-149 Plantwide Fire Protection (NMFS)	0	256,265
93-D-187 High-Level Waste Removal From Filled Waste Tanks (WM)	171,969	141,904
95-D-155 Upgrade Site Road Infrastructure (NMSO)	2,713	0
96-D-408 Waste Management Upgrades, (WM)	8,138	0
96-D-471 CFC HVAC/Chiller Retrofit (NMSO)	34,959	0
97-D-473 Health Physics Site Support Facility (NMSO)	15,200	0
97-D-470 Environmental Monitoring Laboratory (NMSO)	27,780	0
97-D-450 Actinide Packaging and Storage Facility (NMFS)	18,000	83,938
98-D-401 H-Tank Farm Storm Water Systems Upgrade (WM)	12,000	0

## ERRATA SHEET

### DEPARTMENT OF ENERGY FY 1998 CONGRESSIONAL BUDGET REQUEST

#### NATIONAL DEFENSE ASSET ACQUISITION (Tabular dollars in thousands. Narrative material in whole dollars.)

##### Nuclear Material and Facility Stabilization

1. Title and Location of Project:	Plutonium Stabilization and Handling System for PFP, Richland, Washington	2a. Project No. 98-D-453	ADS# RL-6630-0
		2b. Construction Funded	

3a. Date A-E Work Initiated: 2nd Qtr. FY 1998

3b. A-E Work (Titles I and II) Duration: 18 months

5. Previous Cost Estimate:  
Total Estimated Cost (TEC)--None.  
Total Project Cost (TPC)-- None.

4a. Date Physical Construction Starts: 1st Qtr. FY 1999

4b. Date Construction Ends: 4th Qtr. FY 2000

6. Current Cost Estimate:  
TEC -- \$27,200  
TPC -- \$38,270

7. Financial Schedule (Federal Funds):

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1998	13,636	0	8,136	2,150
1999	13,564	0	18,064	22,650
2000	0	0	1,000	1,900
2001	0	0	0	500

1. Title and Location of Project:	Plutonium Stabilization and Handling System for PFP, Richland, Washington	2a. Project No. 98-D-453 2b. Construction Funded	ADS# RL-6630-0
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8. Project Description, Justification and Scope

In May 1994, the Defense Nuclear Facilities Safety Board (DNFSB) issued Recommendation 94-1 which stated that by May 2002, the U.S. Department of Energy should stabilize and store all of its surplus plutonium to meet plutonium storage standards. The Department of Energy accepted DNFSB Recommendation 94-1, and outlined its corrective actions in a February 1995 Implementation Plan. In January 1995, Department of Energy Technical Standard DOE-STD-3013 was issued as the basis for 50-year storage of surplus plutonium with a plutonium content greater than 50 percent by weight. This standard requires that the plutonium-bearing material be thermally stabilized at 1000°C with a loss-on-ignition of less than 0.5 percent by weight. Following thermal stabilization, the material must be packaged in a standardized package configuration capable of keeping the material in a safe and stable state for the full time period. A national consensus team has designed the standardized package with two welded stainless steel containers surrounding a stainless steel convenience can compatible with mechanized handling.

The Plutonium Finishing Plant (PFP) currently does not have a system capable of stabilizing or packaging large quantities of plutonium-bearing solids to these specifications. Vault fixtures in the PFP secure vaults and related laboratory equipment are not large enough to accommodate the standardized containers, and the cooling capacity of vault air conditioning units is at maximum.

This project will allow the PFP to meet the requirements of DOE-STD-3013-96 via an automated Stabilization and Packaging System (SPS) that is capable of stabilizing and packaging the approximate 5,700 items of >50 percent plutonium-bearing material currently stored in the plant's vaults into approximately 2300 of the standardized packages. To accommodate the new standardized container configuration, this project will also modify selected PFP vault fixtures and upgrade nondestructive assay (NDA) measurement systems such as calorimetry and isotopic measurement systems, to measure package plutonium content. Without this stabilization and packaging capability, and corresponding vault and equipment modifications, it will be impossible to meet the Department of Energy's commitment to safely store plutonium in the standardized container designed to comply with DOE-STD-3013-96 by May 2002.

The scope of this project is to procure and install an SPS via a national procurement, modify selected PFP vault fixtures and upgrade NDA measurement systems. Facility infrastructure will be modified to support this new stabilization and packaging system and the standardized container configuration.

The SPS will be installed in the PFP Plutonium Storage Vault complex, Building 2736-ZB. Deliverables associated with the SPS procurement include the following:

- Engineering, analysis, design, fabrication, delivery, and testing of the SPS equipment
- Utility interface requirements
- System safety basis

1. Title and Location of Project:	Plutonium Stabilization and Handling System for PFP, Richland, Washington	2a. Project No. 98-D-453 2b. Construction Funded	ADS# RL-6630-0
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8. Project Description, Justification and Scope (Continued)

- Operating, maintenance, and training procedures and manuals
- Testing and startup procedures
- Design, testing and procurement of a small initial quantity of standardized package components
- Personnel training and technical assistance during startup

The SPS will have the capability to receive and unload plutonium containers; prepare plutonium metal for packaging, stabilize plutonium oxides; package plutonium metals and oxides; meet material control and accountability requirements; and provide radiological containment and shielding. Detailed design, equipment procurement, and installation of the system will be complete by February 2000, and will be ready for beneficial use by August 2000.

This project also makes the necessary facility modifications to support installation and operation of the SPS and storage of the standardized containers. Modifications to 2736-ZB Building include:

- Capacity and control upgrade of the ventilation fan and exhaust filtration systems.
- Addition of support services for the SPS such as bottled gas supplies for package inerting and welding, dry air for glovebox inerting, off gas treatment, stack constant air monitoring capability, electrical supply upgrades and closed loop cooling for laser welder.
- Rearrangement of facility functions currently housed in the proposed location for the SPS.
- Upgrade of laboratory equipment for calorimetry, gamma spectroscopy, radiography.
- Architectural modifications of office areas and air locks to allow SPS operations.

The 2736-Z Building modifications include:

- Modification of selected PFP vault fixtures to store the new standardized package.
- Modification of vault security equipment related to storage fixtures.
- Upgrade of cooling capacity to accommodate the standardized containers in an efficient configuration.

The FY 1998 appropriation will be used to begin definitive design required prior to SPS procurement. Procurement will be initiated as early as possible in FY 1999. The 1999 appropriation will be used to complete definitive design, initiate construction, and install the SPS.



1. Title and Location of Project:	Plutonium Stabilization and Handling System for PFP, Richland, Washington	2a. Project No. 98-D-453 2b. Construction Funded	ADS# RL-6630-0
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9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and management costs .....		\$ 4,000
1. Engineering design and inspection at approximately 12.8 percent of construction costs (item c) .....	\$ 2,400	
2. Construction management costs at approximately 4.5 percent of construction costs (item c) .....	850	
3. Project management at 4.0 percent of construction costs (item c) .....	750	
b. Land and land rights .....		0
c. Construction costs .....		18,700
1. Improvements to land .....	0	
2. Buildings .....	500	
3. Other structures .....	0	
4. Utilities .....	2,000	
5. Special facilities .....	16,200	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		<u>200</u>
h. Subtotal (a through g) .....		\$ 22,900
I. Contingencies at approximately 19 percent of above costs .....		<u>4,300</u>
j. Total line item cost (Section 11.a.1.[a]) .....		\$ 27,200
k. Less: Non-Federal contribution .....		<u>0</u>
l. Net Federal total estimated cost (TEC) .....		<u>\$ 27,200</u>

10. Method of Performance

Design and inspection will be performed by the onsite engineer-construction contractor. Construction work will be performed to the maximum extent possible by fixed-price contractors. The operating contractor will provide project management during design, procurement, and construction of the project.

1. Title and Location of Project:	Plutonium Stabilization and Handling System for PFP, Richland, Washington	2a. Project No. 98-D-453	ADS# RL-6630-0
		2b. Construction Funded	

11. Schedule of Project Funding and Other Related Funding Requirements

	Previous Years	FY 1996	FY 1997	FY 1998	Outyears	Total
a. Total project costs						
1. Total facility costs						
(a) Line item (Section 9.j.)	\$ 0	\$ 0	\$ 0	\$ 2,150	\$ 25,050	\$27,200
(b) Plant engineering and design	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0
(d) Inventories	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total facility cost (Federal and Non-Federal)	\$ 0	\$ 0	\$ 0	\$ 2,150	\$ 25,050	\$27,200
2. Other project costs						
(a) R&D necessary to complete project	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs	0	290	452	0	0	742
(c) Decontamination and decommissioning (D&D)	0	0	0	0	0	0
(d) NEPA documentation costs	0	0	0	0	0	0
(e) Other project-related costs	0	<u>0</u>	<u>2,888</u>	<u>4,320</u>	<u>3,120</u>	<u>10,328</u>
(f) Total other project costs	\$ 0	\$ <u>290</u>	\$ <u>3,340</u>	\$ <u>4,320</u>	\$ <u>3,120</u>	\$ <u>11,070</u>
(g) Total project cost	\$ 0	\$ 290	\$ 3,340	\$ 6,470	\$28,170	\$38,270
(h) Less: Non-Federal contribution.	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(I) Net Federal total project cost (TPC)	<u>\$ 0</u>	<u>\$ 290</u>	<u>\$ 3,340</u>	<u>\$ 6,470</u>	<u>\$28,170</u>	<u>\$38,270</u>
b. Related annual costs						
1. Facility operating costs						\$ 0
2. Facility maintenance and repair costs						0
3. Programmatic operating expenses directly related to the facility						0
4. Capital equipment not related to construction but related to the programmatic effort in the facility						0
5. GPP or other construction related to programmatic effort in the facility						0
6. Utility costs						0
7. Other costs						<u>0</u>
Total related annual costs						<u>\$ 0</u>

1. Title and Location of Project:	Plutonium Stabilization and Handling System for PFP, Richland, Washington	2a. Project No. 98-D-453 2b. Construction Funded	ADS# RL-6630-0
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12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

- a. Total project funding
  - 1. Total facility costs
    - (a) Line item--\$27,200,000; these funds will be used for design, equipment procurement, construction, and project management.
    - (b) Plant engineering and design--None.
    - (c) Expense-funded equipment--None.
    - (d) Inventories-- None.
  - 2. Other project costs
    - (a) R&D necessary to complete construction--None.
    - (b) Conceptual design--\$742,000.
    - (c) Decontamination and decommissioning (D&D)--None.
    - (d) NEPA documentation--Workscope was included in the Environmental Impact Statement for the PFP; therefore, no further costs are currently anticipated for this project.
    - (e) Other project related costs--\$10,328,000; these costs include PFP Engineering and Operational support during design, construction, and startup/operational readiness review. They also include permitting, safety documentation, and International Atomic Energy Agency (IAEA) and stakeholder interfaces.
- b. Related annual costs
  - 1. Facility operating costs--None.
  - 2. Facility maintenance and repair costs--None.
  - 3. Programmatic operating expenses directly related to the facility--None.
  - 4. Capital equipment cost not related to construction but related to the programmatic effort in the facility--None.
  - 5. GPP or other construction related to the programmatic effort in the facility--None.
  - 6. Utility costs--None.
  - 7. Other costs--None.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and location of project:	INEL Road Rehabilitation, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 98-D-700	ADS# ID-7315
		2b. Construction Funded	

SIGNIFICANT CHANGES

- No significant changes.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

- |   |  |
|---|--|
| 1. Title and location of project: INEL Road Rehabilitation, Idaho National<br>Engineering Laboratory, Idaho | 2a. Project No.: 98-D-700      ADS# ID-7315  |
|   | 2b. Construction Funded  |
| 3a. Date A-E work initiated: 2nd Quarter FY 1998  | 5. Previous cost estimate:<br>Total Estimated Cost (TEC)-- None<br>Total Project Cost (TPC)-- None |
| 3b. A-E work (Title I & Title II duration): 12 months   |  |
| 4a. Date physical construction starts: 3rd Quarter FY 1999  | 6. Current Cost Estimate:<br>TEC -- \$10,800<br>TPC -- \$11,400                                    |
| 4b. Date construction ends: 3rd Quarter FY 2001   |  |
| 7. <u>Financial Schedule (Federal Funds)</u>  |  |

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1998	\$ 10,800	0	500	411
1999	0	0	7,834	5,943
2000	0	0	2,466	4,151
2001	0	0	0	295

1. Title and location of project:	INEL Road Rehabilitation, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 98-D-700	ADS# ID-7315
		2b. Construction Funded	

8. Description, Justification and Scope

This project provides for the design, procurement, and rehabilitation of approximately 45 miles of existing roadways and approximately 27,000 square yards of parking areas within the INEL. The rehabilitation actions include the redesign of intersections, widening of roadways, modification of drainage patterns, resloping of shoulders, and reconstruction and renovation of roadways and parking lots. The following methods of reconstruction and renovation will be utilized according to the degree of deterioration:

- a. Excavation and reconstruction of the roadway from the base up through the paved surface.
- b. Base repairs on sections of roadways where base deterioration has occurred and application of an asphalt overlay.
- c. Application of an asphalt overlay to the roadway.
- d. Application of an open graded plant mix seal coat.
- e. Application of a seal coat, including crack repair.

The INEL has over 87 miles of paved roads within its 890 square mile boundary. In addition to this primary transportation network, over 100 miles of unpaved service roads allow access to remote areas for security, environmental experiments and sampling, maintenance activities, and emergency vehicles. Road construction projects are part of a continuing program to preserve and upgrade, if required, the INEL transportation infrastructure. This project is necessary to provide for safe and effective programmatic support. During the 1980's, the INEL received sufficient funding to sustain the road program; however, no significant projects have been completed since 1990.

This project is necessary to continue to provide support for all present and future INEL activities. It supports DOE's mission to provide safe and environmentally compliant transportation for waste shipments in support of the October 17, 1995 court order and transportation of soil borrow to meet various INEL regulatory and compliance issues under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), and other authorities. The project directly supports the Sitewide specific planning goal of providing roads which meet the State of Idaho Highway Construction Specifications, American Association of State Highway and Transportation Officials (AASHTO), and the INEL engineering standards.

The INEL uses the U.S. Army Corps of Engineers' computerized pavement management system, "PAVER", to assess the condition of the paved roadway network. This information will be used in conjunction with the transportation routes addressed above to determine priorities and rehabilitation efforts.

The requested FY 1998 budget appropriation will provide funding to complete the project (design and construction).

1. Title and location of project:	INEL Road Rehabilitation, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 98-D-700	ADS# ID-7315
		2b. Construction Funded	

9. Details of Cost Estimate a/

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management Costs .....		\$ 1,340
(1) Engineering, design and inspection at approximately 7.6 percent of construction costs (item c) (Design, Drawings, and Specifications: \$173) .....	\$ 573	
(2) Construction Management costs at 7.3 percent of Construction costs (item c) .....	549	
(3) Project Management costs at 2.9 percent of construction costs (item c) .....	218	
b. Land and land rights .....		0
c. Construction costs .....		7,510
(1) Improvements to land (paving, drainage) .....	\$ 7,510	
(2) Buildings .....	0	
(3) Other structures .....	0	
(4) Utilities .....	0	
(5) Special Facilities .....	0	
d. Standard Equipment .....		0
e. Major computer items .....		0
f. Removal costs less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
Subtotal .....		\$ 8,850
h. Contingency at approximately 22 percent of above costs .....		<u>1,950</u>
i. Total line-item cost (Section 11. a. 1.(a) .....		\$10,800
j. Less: Non-Federal Contribution .....		<u>0</u>
k. Net Federal Total Estimated Cost (TEC) <u>b/</u> .....		<u><u>\$10,800</u></u>

a/ Project costs are based upon 100 percent completed conceptual design.

b/ The average annual project task cost escalation factors applied to this cost estimate were FY 1998 - 2.5 percent; FY 1999 - 2.7 percent; FY 2000 - 2.9 percent; and FY 2001 - 3.0 percent.

1. Title and location of project:	INEL Road Rehabilitation, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 98-D-700	ADS# ID-7315
		2b. Construction Funded	

10. Method of Performance

The Department of Energy Idaho Operations Office (DOE-ID) shall be responsible for implementation of the project, including selection of principal contractors and approval of specified procurement actions. DOE-ID project management shall be performed by the Construction Management Group in the Office of Program Execution. Safety, environmental, and other project support shall be furnished to the project on an as-needed basis by the DOE-ID matrix organization.

The design project management and construction management shall be performed under a negotiated contract with the operating contractor. Construction and procurement shall be accomplished by fixed price contracts awarded on the basis of competitive bidding. Inspection may be performed by another agent. Check-out of systems, and maintenance of the completed project shall be performed by the operating contractor.

The INEL operating contractor Project Manager shall be responsible for the entire project: design, all construction activities at the INEL site, construction subcontracting, direction of the activities of construction subcontractors, and performance and management of construction activities as required to complete the project in a timely, safe, and cost-effective manner.



1. Title and location of project:	INEL Road Rehabilitation, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 98-D-700	ADS# ID-7315
		2b. Construction Funded	

11. Funding Schedule of Project Funding and Other Related Funding Requirements

a. Total Project Costs	Previous Years	FY 1996	FY 1997	FY 1998	Outyears	Total
1. Total facility costs						
(a) Line-item (Section 9.i) .....	\$ 0	\$ 0	\$ 0	\$ 411	\$ 10,389	\$10,800
(b) Plant Engineering and Design .....	0	0	0	00	0	0
(c) Oper. Exp. funded equipment .....	0	0	0	0	0	0
(d) Inventories .....	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total facility costs (Federal and Non-Federal .....	\$ 0	\$ 0	\$ 0	\$ 411	\$ 10,389	\$10,800
2. Other project costs						
(a) R&D Necessary to complete project .....	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs .....	0	0	0	0	0	0
(c) Decontamination & Decommissioning (D&D) .....	0	0	0	0	0	0
(d) NEPA Documentation Costs .....	0	0	0	0	0	0
(e) Other project-related costs .....	<u>0</u>	<u>0</u>	<u>0</u>	<u>100</u>	<u>500</u>	<u>600</u>
(f) Total other project costs .....	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 100</u>	<u>\$ 500</u>	<u>\$ 600</u>
(g) Total project costs .....	\$ 0	\$ 0	\$ 0	\$ 511	\$ 10,889	\$11,400
(h) Less: Non Federal Contribution .....	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal Total Project Cost (TPC) .....	\$ 0	\$ 0	\$ 0	\$ 511	\$ 10,889	\$ 11,400
b. Related Annual Costs						
1. Facility operating costs .....						\$ 0
2. Facility maintenance and repair costs .....						153
3. Programmatic operating expenses directly related to the facility .....						0
4. Capital equipment not related to construction but related to the programmatic effort in the facility .....						0
5. GPP or other construction related to the programmatic effort in the facility .....						0
6. Utility Costs .....						0
7. Other Costs .....						<u>0</u>
Total related annual costs .....						<u><u>\$ 153</u></u>

1. Title and location of project:	INEL Road Rehabilitation, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 98-D-700	ADS# ID-7315
		2b. Construction Funded	

12. Narrative explanation of total project funding and other related funding requirements

a. Total Project Costs

1. Total facility costs

- (a) Line item - The cost is based upon the conceptual design that was completed in March 1996. The Conceptual Design cost estimate was prepared utilizing the INEL Cost Estimating Manual and DOE Order 5700.2C.
- (b) PE&D--None.
- (c) Expense funded equipment--None.
- (d) Inventories--None.

2. Other project costs

- (a) R&D necessary to complete construction--None.
- (b) (D&D)--None.
- (c) NEPA documentation costs--None.
- (d) Other project-related costs--This category includes the costs associated with the preparation of the Project Execution Plan, Readiness Reviews, OC Construction Support, Quality and Safety audits, document control, design and constructability review, Configuration Management Plan, and project closeout.

b. Related Annual Costs

- 1. Total facility operating costs--None.
- 2. Facility maintenance and repair costs - Cost is based upon FY 1996 Roads and Grounds Maintenance and Repair budget, escalated to the fiscal year that construction is completed.
- 3. Programmatic operating expenses directly related to the facility--None.
- 4. Capital equipment not related to construction but related to the programmatic effort in the facility--None.
- 5. GPP or other construction related to the programmatic effort in the facility--None.
- 6. Utility Costs--None.
- 7. Other Costs--None.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Requests are denoted with a vertical line in left Margin)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

Project:	Actinide Packaging and Storage Facility, Savannah River Site, Aiken, South Carolina	1. 2a. Project No. 97-D-450 2b. Construction Funded	Title and Location of ADS# SR-6965-17
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SIGNIFICANT CHANGES

- A Record of Decision for the Storage and Disposition of Surplus Weapons Usable Fissile Materials Environmental Impact Statement was issued on January 14, 1997, which will reduce the number of sites where plutonium is stored through a combination of storage alternatives and disposition alternatives. Stabilized and separated non-pit plutonium from Rocky Flats will be moved to Savannah River after completion of an expansion of the Actinide Packaging and Storage Facility (APSF). The APSF will be expanded from 2,000 to 5,000 positions to accommodate both the Savannah River Site (SRS) and Rocky Flats Environmental Technology Site (RFETS) non-pit materials, and thereby provide the Department with cost-effective storage of the surplus non-pit materials pending disposition. The Office of Environmental Management (EM) and the office of Fissile Materials Disposition (MD) will contribute to the APSF design to allow funding of the APSF design work in FY 1997 and FY 1998 with funds appropriated to EM (\$7,900,000) and a portion of the \$17,000,000 appropriated to MD. Outyear funding for the construction to accommodate RFETS surplus materials will be offset by MD funds in FY 1999. In FY 1999, the MD project (97-D-140) and the EM project (97-D-450) will be merged into one project.

DEPARTMENT OF ENERGY  
 FY 1998 CONGRESSIONAL BUDGET REQUEST  
 (Changes from the FY 1997 Congressional Budget Request are denoted by a vertical line in the left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

Project:	Actinide Packaging and Storage Facility, Savannah River Site, Aiken, South Carolina	1. 2a. Project No. 97-D-450 2b. Construction Funded	Title and Location of ADS# SR-6965-17
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3a. Date A-E Work Initiated (Title I Design Start Scheduled: 1st Qtr. FY 1997)	5. Previous Cost Estimate: Total Estimated Cost (TEC) -- \$109,838 Total Project Cost (TPC) -- \$138,753
3b. A-E Work (Titles I & II) Duration: 12 months	

4a. Date Physical Construction Starts: 2nd Qtr. FY 1998	6. Current Cost Estimate: TEC -- \$109,838 TPC -- \$138,753
4b. Date Construction Ends: 3rd Qtr. FY 2001	

7. Financial Schedule (Federal Funds)

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1997	\$ 7,900	\$ 0	\$ 7,900	\$ 7,514
1998	18,000	0	18,000	14,339
1999	83,938	0	39,800	38,911
2000	0	0	31,000	34,380
2001	0	0	13,138	14,694

Note: As a result of the Record of Decision (ROD) for the Storage and Disposition of Surplus Weapons Usable Fissile Materials Impact Statement, the cost, scope and schedule of this project will be changed as explained on the Project Data Sheet for 97-D-140. Both data sheets must be combined to get a clear definition of this project. The total storage capacity after incorporation of the ROD will be one (1) 5,000 position module.

1. Title and Location of Project:	Actinide Packaging and Storage Facility, Savannah River Site, Aiken, South Carolina	2a. Project No. 97-D-450 2b. Construction Funded
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8. Project Description, Justification and Scope

\* The Department of Energy (DOE) committed, in the Implementation Plan, for the Defense Nuclear Facilities Safety Board (DNFSB), Recommendation 94-1 to meet the DOE Criteria, for Safe Storage of Plutonium Metal and Oxides (DOE-STD-3013) by May 2002. The existing vaults in the Savannah River Site (SRS) facilities are not sufficient or capable of meeting the commitments in the DNFSB 94-1 Implementation Plan; therefore, the Actinide Packaging and Storage Facility must be constructed. The SRS has determined that a new Actinide Packaging and Storage Facility is the safest (to the worker and environment), and the most economical option compared to the major modification and refurbishing of existing SRS facilities and to a "no action" option. A life cycle cost estimate demonstrated that a new Actinide Packaging and Storage Facility has the lowest total associated cost with a payback period of approximately 3.5 years.

The Actinide Packaging and Storage Facility will provide for thermal stabilization, repackaging, and safe, secure, cost-effective storage of the Special Nuclear Material (SNM) to meet DOE-STD-3013-96, Criteria for Safe Storage of Plutonium Metals and Oxides. The facility is to be a 40,000 square foot (approximately) structure constructed in F-Area consisting of a 23,000 sq. ft. (approximately) hardened structure containing the Material Access Area (MAA). The MAA will be bounded by a contiguous 17,000 sq. ft. (approximately) soft structure containing offices, heating, ventilation, and air conditioning (HVAC) support equipment, and other administrative functions and will be designed to meet all the applicable national standards and DOE Orders.

Specifically, the facility will consist of process areas and equipment for truck unloading/loading, material confirmation, shipping packaging and unpackaging, accountability measurements, safety evaluation, International Atomic Energy Agency (IAEA) inspections, repackaging, waste management, a vault room with automated accessible storage bays, and full support and administration functions. For vault surveillance and container handling, automation will be used to minimize exposure. Additionally, a bagless transfer operation will be used to minimize exposure for the transfer of SNM from the exiting containers to containers designed for interim storage.

Utilities and services required will include electricity, potable process water, chemical storage, steam, compressed air, standard and high-efficiency particulate air filtered ventilation, and communications.

\* FY 1998 funding will be used to complete Title I and II design; initiation of Title III design work; the award of a fixed price construction contract and field work  
\* and procurement of engineered equipment will be completed. The FY 1999 funding will complete construction of the project.

This project will:

- (1) Provide safe and secure interim storage for special nuclear material (SNM) until final dispositioning options are selected.
- (2) Provide a cost-effective central storage facility to consolidate current SNM inventory which meets the DOE standard for storage of plutonium metals and oxides and the time table recommended by the DNFSB.

1. Title and Location of Project:	Actinide Packaging and Storage Facility, Savannah River Site, Aiken, South Carolina	2a. Project No. 97-D-450 2b. Construction Funded
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8. Project Description, Justification and Scope

- (3) Enable the deinventory of the canyon facilities and thereby reduce staffing and security requirements.
- (4) Reduce worker radiation exposure by providing automation (where feasible) for container storage retrieval and positioning.
- (5) Provide a location for IAEA inspection to meet non-proliferation objectives.

9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and management costs .....		\$ 18,028
1. Engineering, design, and inspection at approximately 17.0 percent of construction costs (item c) (Design, Drawings, and Specifications (\$6,009,000) .....	\$ 11,184	
2. Construction management costs at 6.3 percent of construction costs (item c) .....	4,102	
3. Project management at 4.2 percent of construction costs of item c .....	2,742	
b. Land and land rights .....		0
c. Construction costs .....		65,614
1. Improvements to land .....	6,304	
2. Buildings .....	28,715	
3. Other structures .....	1,327	
4. Utilities .....	3,386	
5. Special facilities .....	25,882	
d. Standard equipment .....		7,614
e. Major computer items .....		0
f. Removal cost less salvage .....		10
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
h. Subtotal (a through g) .....		\$ 91,266
I. Contingencies at approximately 20 percent of above cost .....		<u>18,572</u>
j. Total line item cost (Section 11.a.1[a]) .....		\$109,838
k. Less: Non-Federal Contribution .....		<u>0</u>
l. Net Federal total estimated cost (TEC) .....		<u><u>\$109,838</u></u>

Department of Energy established escalation rates were used as provided in June 1996.

1. Title and Location of Project:	Actinide Packaging and Storage Facility, Savannah River Site, Aiken, South Carolina	2a. Project No. 97-D-450 2b. Construction Funded
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10. Method of Performance

A make-versus-buy analysis will be completed and as a result, design, construction, and procurement shall be accomplished by fixed-priced contracts or by the Management and Operating (M&O) Contractor awarded on the basis of competitive bidding.

11. Schedule of Project Costs and Other Related Cost Requirements

	<u>Previous Years</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Total</u>
a. Total project costs					
1. Total facility costs					
(a) Line item (Section 9.j.)	\$ 0	\$ 7,514	\$14,339	\$ 87,985	\$109,838
(b) Plant engineering and design	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0
(d) Inventories	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total facility cost (Federal and Non-Federal)	\$ 0	\$ 7,514	\$14,339	\$ 87,985	\$109,838
2. Other project costs					
(a) R&D necessary to complete project	2,600	2,140	2,575	0	7,315
(b) Conceptual design costs	729	0	0	0	729
(c) Decontamination & decommissioning (D&D)	0	0	0	0	0
(d) NEPA documentation costs	300	0	0	0	300
(e) Other project-related costs	<u>1,200</u>	<u>760</u>	<u>760</u>	<u>17,851</u>	<u>20,571</u>
(f) Total other project costs	<u>\$ 4,829</u>	<u>\$ 2,900</u>	<u>\$ 3,335</u>	<u>\$ 17,851</u>	<u>\$ 28,915</u>
(g) Total project cost	\$ 4,829	\$ 10,414	\$ 17,674	\$105,836	\$138,753
(h) Less: Non-Federal contribution	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(I) Net Federal total project cost (TPC)	<u>\$ 4,829</u>	<u>\$ 10,414</u>	<u>\$ 17,674</u>	<u>\$105,836</u>	<u>\$138,753</u>
b. Related annual costs					
1. Facility operating costs					\$ 16,600
2. Facility maintenance and repair costs					2,500
3. Programmatic operating expenses directly related to the facility					0
4. Capital equipment not related to construction but related to the programmatic effort in the facility					500
5. GPP or other construction related to the programmatic effort in the facility					500
6. Utility costs					900
7. Other costs					<u>0</u>
Total related annual costs					\$ 21,000

1. Title and Location of Project:	Actinide Packaging and Storage Facility, Savannah River Site, Aiken, South Carolina	2a. Project No. 97-D-450 2b. Construction Funded
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12. Narrative Explanation of Total Project Costs and Other Related Funding Requirements

- a. Total project funding
  - 1. Total facility costs
    - (a) Line Item--The line item TEC is \$109,838,000.
    - (b) Plant engineering and design--None
    - © Expense-funded equipment--None.
    - (d) Inventories--None.
  - 2. Other project costs
    - (a) R&D necessary to complete construction--\$7,315,000. These costs include development of the interim storage container, the Bagless Transfer system, Laser Sampling system, Digital Radiography Inspection system, Vault Container Delivery system, Primary Container Welding, and Container Assay Equipment.
    - (b) Conceptual design--\$729,000.
    - © Decontamination and decommissioning (D&D)--None.
    - (d) NEPA documentation --\$300,000.
    - (e) Other project related costs--\$20,571,000. These costs include technical support during design and construction, preparation of safety analysis documentation, preparation of operating procedures and operator training, startup testing, and execution of the Operational Readiness Review/Operational Readiness Evaluation (ORR/ORE).
- b. Related annual costs
  - (1) Facility operating costs--\$16,600,000.
  - (2) Facility maintenance and repair costs--\$2,500,000.
  - (3) Programmatic operating expenses directly related to the facility--None.
  - (4) Capital equipment cost not related to construction but related to the programmatic effort in the facility--\$500,000.
  - (5) GPP or other construction related to programmatic effort in the facility--\$500,000.
  - (6) Utility costs--\$900,000.
  - (7) Other costs--None.



DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from the FY 1997 Congressional Budget Request are denoted by a vertical line in the left margin)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project:	B-Plant Safety Class Ventilation Upgrades, Richland, Washington	2a. Project No.: 97-D-451 2b. Construction Funded	ADS# RL-6626-1
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SIGNIFICANT CHANGES

- No significant changes.

DEPARTMENT OF ENERGY  
 FY 1998 CONGRESSIONAL BUDGET REQUEST  
 (Changes from the FY 1997 Congressional Budget Request are denoted by a vertical line in the left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project: B-Plant Safety Class Ventilation Upgrades, Richland, Washington	2a. Project No.: 97-D-451 2b. Construction Funded	ADS# RL-6626-1
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3a. Date A-E Work Initiated, (Title I Design Start Scheduled): 1st Qtr. FY 1997  3b. A-E Work (Titles I and II) Duration: 10 months	5. Previous Cost Estimate: Total Estimated Cost (TEC)--\$3,500 Total Project Cost (TPC)--\$5,300
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4a. Date Physical Construction Starts: 1st Qtr. FY 1998  4b. Date Construction Ends: 2nd Qtr. FY 1999	6. Current Cost Estimate: TEC -- \$3,500 TPC -- \$5,300
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7. Financial schedule (Federal Funds)

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1997	\$ 1,500	\$ 0	\$ 1,500	\$ 1,000
1998	2,000	0	2,000	1,860
1999	0	0	0	640

1. Title and Location of Project:	B-Plant Safety Class Ventilation Upgrades, Richland, Washington	2a. Project No.: 97-D-451 2b. Construction Funded
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8. Project Description, Justification and Scope

Completion of this project will provide isolation of existing B-Plant canyon filters in order to meet the end point criteria for cleanout and stabilization. The project includes a replacement High-Efficiency Particulate Air (HEPA) filter system for the B-Plant canyon exhaust with a new above grade filter housing with changeable HEPA filter elements, including ductwork, utilities, instrumentation and controls. The existing underground HEPA filter system will be isolated from the remainder of the plant by installing barriers in the air duct, thereby isolating the largest mobile radiological source term within the facility.

\* The original B-Plant canyon ventilation system exhausted air directly to the environment via a 200-foot stack with no filtration. A sand filter was added in 1948. The first HEPA filter system was installed in the 1960s, with an array of filter elements installed in an underground concrete chamber. Before each filter reached the end of its life, a new chamber was built beside the previous filter. This process continued; the fifth HEPA filter system, designated "E Filter", is now in service. Airflow through the retired filters is blocked by a water seal provided at the outlet of each filter, but all filters share a common inlet.

\* The radionuclides loading onto the fiberglass and plywood HEPA filters is estimated between 100,000 and 1,000,000 total curies, primarily strontium 90 and cesium 137. The retired filter elements themselves provide questionable integrity due to their age and accumulated radiation dose. Concerns exist regarding the potential for migration of the radionuclides from retired filters to in-service filters, or the potential for release of the radionuclides to the environment in the event of an accident.

The new filter system will use changeable filters which will not accumulate the high level of radionuclides that are present on the existing HEPA filters. Consequently, the worst case accident involving the new filter system would result in negligible doses to workers or public.

Water seals are used on the outlet side of the retired HEPA filters to prevent airflow through them. The water seals must be monitored and refilled routinely due to evaporation. Isolating the existing filter system and constructing a new filter system would preclude the need for water seals and eliminate the possibility of radionuclides release due to a failed water seal.

The Washington State Department of Health exercises authority over the design and construction of air cleaning systems associated with permitted stacks. That agency has expressed concern regarding the reliability of the water seals but has accepted the current configuration of retired filters with outlet water seals at B-Plant as long as the seals are assured through daily surveillance. Once the plant is inactive, however, daily surveillance will not be practical. The new filter system eliminates the use of water seals altogether.

The new filter system will require less maintenance and surveillance than the existing system, resulting in reduced resource requirements. Currently, the retired filters require an operator to perform surveillance on water levels once per shift (approximately 3 man-hours per day). In addition, seals must be refilled due to evaporation. Refilling pumps requires entry into surface contamination areas and confined spaces, and requires approximately 16 man-hours per month. Surveillance requires at least one operator to be present at the plant; refilling the water seals requires two operators. Radiological technical support is required to perform periodic surveillance and to update radiation work permits for the areas requiring access.

1. Title and Location of Project:	B-Plant Safety Class Ventilation Upgrades, Richland, Washington	2a. Project No.: 97-D-451 2b. Construction Funded
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8. Project Description, Justification and Scope (Continued)

The radionuclides content in the new filter system will be negligible, compared to a source term of approximately 750,000 curies in the existing HEPA filter system. Once the existing system is isolated, the potential for this release would no longer exist. Additionally, the new filter system will reduce airflow from 30,000 cubic feet per minute to 10,000 cubic feet per minute with a corresponding reduction in radionuclides deposition on the HEPA filters. Lower filter loading will result in less waste being generated.

The estimated gross annual cost of operating the project facilities upon completion is approximately \$50,000. The primary elements of the annual operating costs are utility costs for operating the exhaust fans and inlet air pre-heater; and labor and material costs for daily surveillance of the new filter system, annual replacement of spent HEPA filters, bi-annual instrument calibration, and replacement of failed equipment (e.g. valves, heaters). The gross annual cost for operating the current B-Plant canyon ventilation is approximately \$142,000.

\* FY 1998 appropriation will be used for the completion of the construction project.

1. Title and Location of Project:	B-Plant Safety Class Ventilation Upgrades, Richland, Washington	2a. Project No.: 97-D-451 2b. Construction Funded
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9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and management costs .....		\$ 1,000
1. Engineering design and inspection at approximately 35.0 percent of construction costs (item c, Design, Drawings, and Specifications: \$370,000) .....	\$ 630	
2. Construction management costs approximately 11.7 percent of construction costs (item c) .....	210	
3. Project management at 8.9 percent of construction costs (item c) .....	160	
b. Land and land rights .....		0
c. Construction costs .....		1,800
1. Improvements to land .....	0	
2. Buildings .....	0	
3. Other structures .....	1,660	
4. Utilities .....	0	
5. Special facilities .....	140	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
h. Subtotal (a through g) .....		\$ 2,800
i. Contingencies at approximately 25 percent of above costs .....		<u>700</u>
j. Total line item cost (Section 11.a.1.[a]) .....		\$ 3,500
k. Less: Non-Federal contribution .....		<u>0</u>
l. Net Federal total estimated cost (TEC) .....		<u><u>\$ 3,500</u></u>

1. Title and Location of Project:	B-Plant Safety Class Ventilation Upgrades, Richland, Washington	2a. Project No.: 97-D-451 2b. Construction Funded
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10. Method of Performance

The operating contractor shall provide technical direction, overall integration and operational support for this project.

Design and inspection shall be performed under a negotiated contract with the onsite engineer-constructor. To the extent feasible, construction and procurement shall be accomplished by fixed-price contracts awarded on the basis of competitive bidding.

Site preparation and installation of the isolation barriers and tie-in configuration to the existing filter system shall be by the onsite engineer-constructor due to the radiological dose and contamination potential at these location.

Note: This estimate is based on a completed conceptual design.

All costs include escalation based on the "Material and Labor Escalation Study," prepared by Kaiser Engineers Hanford, dated February 1994.  
Engineering: FY 1994 - 3.8%; FY 1995 - 4.2%; FY 1996 - 4.2%; FY 1997 - 4.5%; FY 1998 - 4.5%; FY 1999 - 4.9%; FY 2000 - 4.5%; FY 2001 - 4.4%; Construction: FY 1994 - 2.9%; FY 1995 - 3.4%; FY 1996 - 3.4%; FY 1997 - 3.4%; FY 1998 - 3.7%; FY 1999 - 3.5%; FY 2000 - 3.4%; FY 2001 - 3.1%.

1. Title and Location of Project:	B-Plant Safety Class Ventilation Upgrades, Richland, Washington	2a. Project No.: 97-D-451 2b. Construction Funded
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11. Schedule of Project Funding and Other Related Funding Requirements

	Previous Years	FY 1996	FY 1997	FY 1998	FY 1999	TOTAL
a. Total project costs						
1. Total facility costs						
(a) Line item (Section 9.j.)	\$ 0	\$ 0	\$ 1,000	\$ 1,860	\$ 640	\$ 3,500
(b) Plant engineering and design	0	0	0	0	0	0
(c) Operating Expense funded equipment	0	0	0	0	0	0
(d) Inventories	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total facility cost (Federal and Non-Federal)	\$ 0	\$ 0	\$ 1,000	\$ 1,860	\$ 640	\$ 3,500
2. Other project costs						
(a) R&D necessary to complete project	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs	218	0	0	0	0	218
(c) Decontamination and decommissioning (D&D)	0	0	0	0	0	0
(d) NEPA documentation costs	5	0	0	0	0	5
(e) Other project-related costs	<u>287</u>	<u>170</u>	<u>312</u>	<u>566</u>	<u>242</u>	<u>1,577</u>
(f) Total other project costs	<u>\$ 510</u>	<u>\$ 170</u>	<u>\$ 312</u>	<u>\$ 566</u>	<u>\$ 242</u>	<u>1,800</u>
(g) Total project costs	\$ 510	\$ 170	\$ 1,312	\$ 2,426	\$ 882	\$ 5,300
(h) Less: Non-federal contribution	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal total project cost (TPC)	<u>\$ 510</u>	<u>\$ 170</u>	<u>\$ 1,312</u>	<u>\$ 2,426</u>	<u>\$ 882</u>	<u>\$ 5,300</u>
b. Related annual costs (estimated useful life of the facility--20 years)						
1. Facility operating costs						\$ 15
2. Facility maintenance and repair costs						21
3. Programmatic operating expenses directly related to the facility						0
4. Capital equipment not related to construction but related to the programmatic effort in the facility						0
5. GPP or other construction related to the programmatic effort in the facility						0
6. Utility costs						14
7. Other costs						<u>0</u>
Total related annual costs						<u>\$ 50</u>

1. Title and Location of Project:	B-Plant Safety Class Ventilation Upgrades, Richland, Washington	2a. Project No.: 97-D-451 2b. Construction Funded
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12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

- a. Total project funding
  - 1. Total facility costs
    - (a) Line item--Total cost of design procurement and construction of the project is \$3,500,000.
    - (b) Plant engineering and design--None.
    - (c) Expense-funded equipment--None.
    - (d) Inventories--None.
  - (2) Other project costs
    - (a) R&D necessary to complete construction--None.
    - (b) Conceptual design--\$218,000 for the completed conceptual design.
    - (c) Decontamination and decommissioning (D&D)--None.
    - (d) NEPA documentation--Costs of \$5,000 for a draft Exclusion determination form and the Information Bulletin, for the proposed upgrades to the B-Plant Ventilation System.
    - (e) Other project related costs--\$1,577,000 for operating contractor support for the Preliminary Safety Analysis Report, Value Engineering Report, site investigations, vent requirements study, Quality Assurance Program Plan, Project Management Plan, design reviews, Fire Hazards Analysis, construction support, closeout and startup reviews, and operator training.
- b. Related annual costs
  - 1. Facility operating costs--\$15,000 for approximately 360 man-hour/year routine daily surveillance for the new filter system and reduced surveillance of the retired system. The new filter system replaces the existing B-Plant canyon ventilation system filter building. These costs are approximately \$77,000 less than the facility it replaces.
  - 2. Facility maintenance and repair costs--\$21,000 for approximately 160 man-hour/year for instrument calibration, filter changeout, flow penetration testing, and corrective maintenance including materials. These costs are approximately the same as the facility it replaces.
  - 3. Programmatic operating expenses directly related to the facility--None.
  - 4. Capital equipment not related to construction but related to the programmatic effort in the facility--None.
  - 5. GPP or other construction related to programmatic effort in the facility--None.
  - 6. Utility costs--\$14,000 for power to operate the project equipment including the exhaust fans, inlet air pre-heater, lighting and instrumentation. These costs are approximately \$15,000 less than the facility it replaces.
  - 7. Other costs--None.



DEPARTMENT OF ENERGY  
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NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project:	Environmental Monitoring Laboratory, Savannah River Site, Aiken, South Carolina	2a. Project No.: 97-D-470 2b. Construction Funded	ADS# SR-7267
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SIGNIFICANT CHANGES

- No significant changes.

DEPARTMENT OF ENERGY  
 FY 1998 CONGRESSIONAL BUDGET REQUEST  
 (Changes from the FY 1997 Congressional Budget Request are denoted by a vertical line in the left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project:	Environmental Monitoring Laboratory, Savannah River Site, Aiken, South Carolina	2a. Project No.: 97-D-470	ADS# SR-7267
		2b. Construction Funded	
3a. Date A-E Work Initiated:	2nd Quarter FY 1997	5. Previous Cost Estimate	
		Total Estimated Cost (TEC) --	\$30,280
3b. A-E Work (Titles I & II) Duration:	15 months	Total Project Cost (TPC) --	\$33,690
4a. Date Physical Construction Starts:	4th Quarter FY 1998	6. Current Cost Estimate:	
		TEC --	\$30,280
4b. Date Construction Ends:	2nd Quarter FY 2000	TPC --	\$33,690
7. <u>Financial Schedule (Federal Funds)</u>			

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1997	\$ 2,500	\$ 0	\$ 2,500	\$ 1,850
1998	27,780	0	5,600	4,620
1999	0	0	18,100	18,550
2000	0	0	4,080	5,260

1. Title and Location of Project:	Environmental Monitoring Laboratory, Savannah River Site, Aiken, South Carolina	2a. Project No.: 97-D-470 2b. Construction Funded	ADS# SR-7267
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8. Project Description, Justification and Scope

This project will design, build, and equip a new Environmental Monitoring Laboratory (EML) and support facilities at the Savannah River Site (SRS). The new facility will provide continued full compliance with the Occupational Safety and Health Administration (OSHA) and environmental protection requirements as detailed in federal and state regulations and Department of Energy (DOE) Orders. The EML will house the equipment and personnel to support the site environmental sampling, radioanalytical counting, water quality/groundwater assessments, and environmental radiochemistry. The new laboratory and support facilities will include laboratory modules, mechanical and electrical support services, storage space, and offices for technical and administrative personnel. The design of the laboratory will accommodate future growth by providing expansion capability for additional laboratory modules and associated support features.

The laboratory will be a facility of approximately 54,000 square feet and will be divided into two major functional areas: 1) laboratory and 2) office and administration. The laboratory section (approximately 24,000 square feet) includes the sampling rooms, water quality/groundwater laboratory modules, radiochemistry laboratory modules, radioanalytical counting rooms, and storage rooms. In addition, a service basement of approximately 15,000 square feet will be provided to include a boiler room, cylinder storage room, Radiological Buffer Area (RBA) treatment system, laboratory exhaust hood duct system, flammable storage room and vehicle circulation space. The office and administration area (approximately 15,000 square feet) includes space for management and staff, data management, publication rooms, and record storage. The facility size was reduced from 78,600 square feet to approximately 54,000 square feet. Facility size reductions were experienced in the administration area, laboratory area, and the service basement.

The support facilities include the HP Complex Wastewater Treatment Facility (approximately 1,800 square feet) and an Acid/Base/Organic Storage Facility (approximately 1,200 square feet). The HP Complex Wastewater Treatment Facility will house the treatment systems required for the EML and the Health Physics Site Support Facility (96-D-473) line item project.

The support laboratories operated by the Environmental Monitoring Section (EMS) of the Environmental Protection Department currently occupy facilities which are at the end of their life cycles. General deterioration is evident and catastrophic ventilation system failures have occurred and are expected to become prevalent within the next 10 years creating Occupational Safety and Health Administration (OSHA) concerns. In addition, current operations are being performed in facilities that have the following design deficiencies: 1) facilities do not provide neutralization capabilities for acidic waste water; 2) facilities cannot accommodate large amounts of automated instrumentation and computers; 3) facilities do not allow adequate sample segregation. Facility renovation studies were conducted identifying that a significant cost would be experienced to renovate facilities over 40 years old. Meanwhile, the EMS mission and regulatory requirements continue to grow.

1. Title and Location of Project:	Environmental Monitoring Laboratory, Savannah River Site, Aiken, South Carolina	2a. Project No.: 97-D-470 2b. Construction Funded	ADS# SR-7267
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8. Project Description, Justification of Scope (continued)

This project will provide a facility that will be an essential part of safe operation of the site, and will allow the site to remain in full compliance with Federal and state regulations and DOE Orders 5400.1, General Environmental Protection Program, and 5400.4, Radiation Protection of the Public and the Environment. Environmental Monitoring Laboratory performs environmental analysis in support of the following: Canyon Operations, Reactor and Fuel Basin Storage facilities, Tritium programs, Nuclear Material Stabilization programs, and Defense Waste Processing Facility (DWPF), tank farm operations, Consolidated Incinerator Facility and remediation projects.

The new facility will be a self-supporting facility as part of the Health Protection Complex in B-Area of the SRS. Successful completion of this project will provide adequate facilities to meet current and future sample analysis determination and personnel space requirements, prevent loss of critical ventilation systems due to continued corrosion, and alleviate inefficient conditions for performing environmental monitoring functions. Existing facility renovation is not practical nor cost-effective. Renovation is not a viable option since the special provisions to permit EMS mission support would extend the renovation schedule to as long as 10 years with a projected cost of approximately \$45,000,000.

Sudden and unexpected loss of environmental monitoring capability could occur due to a significant physical failure in building or HVAC integrity in the existing facility. Key site operations would terminate until a monitoring capability could be restored. Without the Environmental Monitoring Laboratory, thirteen Category 1 stacks could not be monitored for emissions likely resulting in the cessation of operations in F-Canyon, H-Canyon, Central Laboratory complex, tritium operations, Savannah River Technology Center laboratories and Defense Waste Processing Facility (DWPF) operations. EML also analyzes liquid releases from several key effluent locations including F-Area facilities, H-Area facilities, tritium facilities, H-Area Tank farm, DWPF, and K-Reactor. The facilities could not demonstrate compliance to the Clean Air Act and would be subject to legal actions including fines. Physical failure of the existing building or heating, ventilation and air conditioning (HVAC) system is forecasted for the 2000-2001 timeframe.

The use of offsite commercial laboratories is not practical because of the high volume of samples that require rapid turnaround. Also, the number of commercial laboratories that can be utilized is limited because the samples, particularly the stack filters, often contain low levels of radioactivity.

Under 10 CFR 834, SRS must be able to sample and analyze in accordance with its monitoring plan. Besides the effluent monitoring described above, the site must have an environmental surveillance program to assess mobility of radioactivity into the environment. Many aspects of the surveillance program, specifically fish and Savannah River water monitoring, are politically sensitive and highly scrutinized by the public and governmental officials. Failure to comply with any aspect of 10 CFR 834 would leave the site subject to enforcement by all appropriate means, including the imposition of civil and criminal penalties.

The gross annual operating cost for this facility is estimated to be \$1,970,000. This includes operations, building maintenance, equipment repair, and utility costs.

1. Title and Location of Project:	Environmental Monitoring Laboratory, Savannah River Site, Aiken, South Carolina	2a. Project No.: 97-D-470 2b. Construction Funded	ADS# SR-7267
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8. Project Description, Justification of Scope (continued)

FY 1998 funds will be used to complete design and construction. Construction activities include: ordering material, site grading, roughing utilities and starting the foundation work.

9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and management costs .....		\$ 3,447
1. Engineering design and inspection at approximately 13.4 percent of construction costs (item c) (Design Drawings, and Specifications: \$1,802) .....	\$ 2,140	
2. Construction management costs at approximately 3.9 percent of construction costs (item c) .....	632	
3. Project management at 4.2 percent of construction costs (item c) .....	675	
b. Land and land rights .....		0
c. Construction costs .....		16,003
1. Improvements to land .....	55	
2. Building modifications .....	13,256	
3. Other structures .....	115	
4. Utilities .....	1,905	
5. Special facilities .....	672	
d. Standard equipment .....		1,988
e. Major computer items .....		4,969
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		207
Subtotal .....		\$ 26,614
h. Contingency at approximately 14 percent of above costs .....		3,666
i. Total line item cost (Section 11.a.1.(a)) .....		\$ 30,280
j. Less: Non-Federal contribution .....		0
k. Net Federal total estimated cost (TEC) .....		\$ 30,280

The Department of Energy (DOE) February 1996 escalation rates (percent per year) used for this estimate are as follows:

<u>Fiscal Year</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>
Escalation	2.7	2.8	3.0	3.0

The above estimate includes \$3,123,000 for escalation. Estimate is based on completed conceptual design.

1. Title and Location of Project:	Environmental Monitoring Laboratory, Savannah River Site, Aiken, South Carolina	2a. Project No.: 97-D-470 2b. Construction Funded	ADS# SR-7267
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10. Method of Performance

This project will be managed by the Management and Operating (M&O) contractor. The design and construction shall be accomplished by fixed-price subcontracts awarded on the basis of competitive bidding.

11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Total</u>
a. Total project costs						
1. Total facility costs						
(a) Line-item (Section 9.i.) . . . . .	\$ 0	\$ 0	\$ 1,850	\$ 4,620	\$ 23,810	\$ 30,280
(b) Plant engineering and design . . . . .	0	0	0	0	0	0
(c) Operating expense funded equipment . . . . .	0	0	0	0	0	0
(d) Inventories . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total facility cost (Federal and Non-Federal) . . . . .	\$ 0	\$ 0	\$ 1,850	\$ 4,620	\$ 23,810	\$ 30,280
2. Other project costs						
(a) R&D necessary to complete project . . . . .	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs . . . . .	855	0	0	0	0	855
(c) Decontamination and decommissioning (D&D) . . . . .	0	0	0	0	0	0
(d) NEPA documentation costs . . . . .	90	0	0	0	0	90
(e) Other project-related costs . . . . .	<u>295</u>	<u>0</u>	<u>450</u>	<u>430</u>	<u>1,290</u>	<u>2,465</u>
(f) Total other project costs . . . . .	<u>1,240</u>	<u>0</u>	<u>450</u>	<u>430</u>	<u>1,290</u>	<u>3,410</u>
(g) Total project cost . . . . .	1,240	0	2,300	5,050	25,100	33,690
(h) Less: Non-Federal contribution . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal total project cost (TPC) . . . . .	\$1,240	\$ 0	\$ 2,300	\$ 5,050	\$ 25,100	\$ 33,690
b. Related annual costs (estimated life of project--40 years)						
1. Facility operating costs . . . . .						\$ 1,230
2. Facility maintenance and repair costs . . . . .						250
3. Programmatic operating expenses directly related to the facility . . . . .						0
4. Capital equipment not related to construction but related to the programmatic effort in the facility . . . . .						0
5. GPP or other construction related to programmatic effort in the facility . . . . .						0
6. Utility costs . . . . .						100
7. Other costs . . . . .						<u>390</u>
Total Related Annual Costs . . . . .						<u>\$ 1,970</u>

1. Title and Location of Project:	Environmental Monitoring Laboratory, Savannah River Site, Aiken, South Carolina	2a. Project No.: 97-D-470 2b. Construction Funded	ADS# SR-7267
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12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project funding

1. Total facility costs

- (a) Line-item--Narrative not required.
- (b) Plant engineering and design--None.
- (c) Expense-funded equipment--None.
- (d) Inventories--None.

2. Other project costs

- (a) R&D necessary to complete construction--None.
- (b) Conceptual design--Includes \$855,000 spent to prepare a Functional Design Criteria, scope of work, preliminary drawings, conceptual estimate, conceptual design report, and a Task Order Proposal Request for A/E services.
- (c) Decontamination and decommissioning (D&D)--None.
- (d) NEPA documentation costs--\$90,000 - Includes \$40,000 for documentation and \$50,000 for site characterization.
- (e) Other project-related costs--\$2,465,000 includes startup, equipment setup/checkout, training, and procedure safety documentation preparation.

b. Related annual costs

- 1. Facility operating costs--\$1,230,000 includes salaries, benefits, overhead staffing, janitorial services and supplies. (10 FTE)
- 2. Facility maintenance and repair costs--\$250,000 includes repair of equipment, HVAC, etc. (1 FTE)
- 3. Programmatic operating expenses directly related to the facility--No incremental staffing required.
- 4. Capital equipment cost not related to the programmatic effort--None.
- 5. GPP or other construction related to the programmatic effort--None.
- 6. Utility costs--\$100,000 includes electric power.
- 7. Other costs--\$390,000 includes HP Complex Wastewater Treatment Facility staffing, equipment repair, and supplies.

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(Changes from the FY 1997 Congressional Budget Request are denoted by a vertical line in the left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project:	Health Physics Site Support Facility, Savannah River Site, Aiken, South Carolina	2a. Project No.: 97-D-473	ADS# SR-7265
		2b. Construction Funded	

SIGNIFICANT CHANGES

- No significant changes.



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NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project:	Health Physics Site Support Facility, Savannah River Site, Aiken, South Carolina	2a. Project No.: 97-D-473	ADS# SR-7265
		2b. Construction Funded	
3a. Date A-E Work Initiated (Title I Design Start Scheduled):	2nd Qtr. FY 1997	5. Previous Cost Estimate:	
3b. A-E Work (Titles I & II) Duration:	14 months	Total Estimated Cost (TEC) --	\$17,200
		Total Project Cost (TPC) --	\$19,500
4a. Date Physical Construction Starts:	2nd Qtr. FY 1998	6. Current Cost Estimate:	
4b. Date construction ends:	2nd Qtr. FY 2000	TEC --	\$17,200
		TPC --	\$19,500

7. Financial Schedule (Federal Funds):

<u>Fiscal Year</u>	<u>Appropriations</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1997	\$ 2,000	\$ 0	\$ 2,000	\$ 1,400
1998	15,200	0	4,200	3,800
1999	0	0	10,000	10,800
2000	0	0	1,000	1,200

1. Title and Location of Project:	Health Physics Site Support Facility, Savannah River Site, Aiken, South Carolina	2a. Project No.: 97-D-473	ADS# SR-7265
		2b. Construction Funded	

8. Project Description, Justification and Scope

This project will design, build, and equip a new Health Physics Site Support Facility at the Savannah River Site (SRS). The new facility will provide for full compliance with radiation protection requirements of the Department of Energy (DOE) Orders. Health Physics Technology laboratory and processing facilities determine, evaluate, and document personnel exposures to radioactive materials. The new laboratory facilities will include laboratory modules for sample receipt, sample preparation, counting for radioactivity, thermoluminescent dosimeter processing, data evaluation, mechanical and electrical support services, storage space, and offices for technical and administrative personnel. The technology center will be a facility of approximately 45,000 square feet and will be divided into two major functional areas: the in-vitro laboratory and dosimetry processing within the office and administration section. The in-vitro laboratory (approximately 15,000 square feet) includes the bioassay laboratories, storage and receiving rooms, and analytical offices. Dosimetry processing, located within the administration areas, houses dosimetry receiving, staging, and processing rooms; record and file storage rooms; and support offices. The office and administration area provides space for management, staff and associated support requirements. The Dosimetry and Administrative areas are approximately 20,000 square feet. In addition, a service basement of approximately 10,000 square feet will be provided below the in-vitro laboratory to house wash-down facilities for the hood exhaust duct and mechanical fans.

The Health Protection (HP) Department technical support laboratories and offices still occupy essentially the same facilities that were designed and constructed in the early 1950's, with no significant increase in facility floor space. These facilities were originally designed for a limited sampling program for a site population of less than 10,000. With the additional number of site and Health Protection employees, increases in site monitoring requirements, and general deterioration of the current laboratories, the existing facilities can no longer adequately support the health protection needs of the site.

This project will provide a facility that will be an essential part of safe operation of the site, and which will allow the site to be in full compliance with DOE Order 5480.11 (Radiological Protection for Occupational Workers) and DOE Radiological Control Manual DOE/EH-0256T. Health Protection Department performs bioassay and dosimetry analysis on workers supporting the following: high and low-level waste operations, reactor and fuel basin storage, tritium programs, and Nuclear Material Stabilization Facilities, Defense Waste Processing Facility (DWPF), laboratory programs and remediation projects.

\*

Existing facility is 42 years old with extensive corrosion of hoods and hood exhaust ductwork. The physical condition of the 735-A facility continues to deteriorate due to the high volumes of samples processed, the age of the facility, and the poor design of heating, ventilation, and air conditioning (HVAC) layout and materials (by current standards). The majority of the bioassay analyses involve the slow evaporation of concentrated nitric and hydrochloric acids. During ventilation imbalances, these acids condense in the ductwork and have resulted in the extensive corrosion of both the ductwork and the chemical hoods. Physical failure of the building or HVAC system is forecasted for the 2000-2001 timeframe.

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1. Title and Location of Project:	Health Physics Site Support Facility, Savannah River Site, Aiken, South Carolina	2a. Project No.: 97-D-473	ADS# SR-7265
		2b. Construction Funded	

8. Project Description, Justification and Scope (Continued)

Existing facility renovation or expansion is not practical nor cost-effective. Renovation would be ineffective since the existing facilities do not contain sufficient space required to perform the types and quantity of analyses required. Facility expansion is not practical since appropriate space adjacent to the current facility is not available. No other suitable space is currently available onsite. Due to potential site mission changes and population shifts, the availability of existing onsite space will be again reviewed during Title I design.

- \* Sudden and unexpected loss of the site internal dosimetry processing capability could occur due to a significant physical failure in building or HVAC integrity in
- \* the existing facility. All, or almost all, site operations supported by bioassay would be adversely impacted. For example, personnel would be restricted from
- \* performing radiological work pending resolution of dosimetry assessments. Site work covered by bioassay programs include high level and low level waste
- \* processing and storage, Defense Waste Processing Facility operations, reactor fuel storage, tritium production and handling, H-Area and F-Area canyons,
- \* environmental remediation projects, and many other process and incidental site functions. Limited bioassay services could be set up on an emergency basis, but
- \* commercial analytical capacity to replace all SRS bioassay processing does not exist with any single supplier. Six or more contracts with bioassay vendors would
- \* probably be required to meet the current sample load. Administration and support of multiple services contracts would be difficult, costly, and error prone.
- \* Experience has shown that turnaround times from commercial services are too long to respond effectively to potential incidents.
- \*
- \* Outsourcing of bioassay and external dosimetry services has been reviewed in depth. Because the SRS bioassay laboratory is the largest processor of actinide
- \* bioassay samples in the United States, it would be impossible to subcontract to a single, existing commercial laboratory. In addition, there is little requirement for
- \* actinide bioassay sample processing outside the DOE complex, therefore commercial laboratories have limited capacity and little experience in performing these
- \* analyses. If multiple laboratories were utilized, the analytical techniques and statistical treatment of the data would be inconsistent making final result
- \* comparisons and dose assignments more difficult to perform and defend.
- \*
- \* Outsourcing of bioassay analysis to commercial services has been reviewed as an alternative to new construction. It is neither cost nor safety-effective to
- \* outsource bioassay samples to multiple commercial services. Studies have shown that Savannah River Site can perform bioassay analyses in-house at roughly half
- \* the cost of commercial laboratories, in part due to economies of scale. Should outsourcing occur, a number of technicians and professionals would still be
- \* required to collect and ship samples, prepare and review results from quality control samples, and receive, review and process results. Experience has shown that
- \* turnaround times from commercial services are too long to respond effectively to potential incidents.
- \*
- \* At SRS, a management decision was made to consolidate all bioassay analyses on site due to problems associated with the three different subcontractor
- \* laboratories used by SRS in the past 6 years to perform a small portion of our analyses. Although contracted turnaround times were specified for 3 weeks, results
- \* were often not reported for many months (and in some cases greater than 6 months). In addition, it was difficult to obtain the actual hardcopy and electronic
- \* counting records for quality assurance and dose assessment purposes, and considerable manpower was expended resolving data discrepancies.
- \*

1. Title and Location of Project:	Health Physics Site Support Facility, Savannah River Site, Aiken, South Carolina	2a. Project No.: 97-D-473	ADS# SR-7265
		2b. Construction Funded	

\* 8. Project Description, Justification and Scope (Continued)

\* Historically, many of the DOE sites have had similarly poor service from offsite bioassay laboratories which has resulted in the canceling of contracts and  
 \* development of onsite capabilities. Problems at Hanford and Sandia within the past decade have resulted in Federal criminal investigations for fraud and  
 \* mismanagement. Recently, DOE Headquarters issued a communique describing problems that resulted from the Mound Facility using an off-site contract  
 \* laboratory to perform their bioassay analyses.

The gross annual cost for operating this facility is estimated to be approximately \$580,000. This includes building maintenance, equipment repair, janitorial services, and utility costs.

\* FY 1998 funding will be used to award a subcontract and complete construction. Construction activities include: ordering all materials, site grading, roughing in  
 \* utilities, foundation work and start erecting structural steel.

9. Detail of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management Costs .....		\$ 2,680
1. Engineering, Design and Inspection at approximately 10.3 percent of Construction Costs (item c) (Design, Drawings, and Specifications \$750,000) .....	\$1,280	
2. Construction Management Costs at 3.9 percent of Construction Costs (item c) .....	480	
3. Project Management at 7.4 percent of Construction Costs (item c) .....	920	
b. Land and Land Rights .....		0
c. Construction Costs .....		12,390
1. Improvements to Land .....	440	
2. Buildings .....	11,950	
3. Other Structures .....	0	
4. Utilities .....	0	
5. Special Facilities .....	0	
d. Standard Equipment .....		0
e. Major Computer Items .....		0
f. Removals Cost Less Salvage .....		0
g. Design and Project Liaison, Testing, Checkout and Acceptance .....		<u>0</u>
Subtotal .....		\$ 15,070
h. Contingency at Approximately 14 Percent of Above Costs .....		<u>2,130</u>
i. Total Line Item Cost (Section 11.a.1.(a)) .....		\$ 17,200
j. Less: Non-Federal Contribution .....		<u>0</u>
k. Net Federal Total Estimated Cost (TEC) .....		<u>\$ 17,200</u>

1. Title and Location of Project:	Health Physics Site Support Facility, Savannah River Site, Aiken, South Carolina	2a. Project No.: 97-D-473	ADS# SR-7265
		2b. Construction Funded	

9. Detail of Cost Estimate

The Department of Energy (DOE) February 1996 escalation rates (% per year) used for this estimate are as follows:

<u>Fiscal Year</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
Escalation	2.7	2.8	3.0

The above estimate includes \$1,205,000 for escalation.

10. Method of Performance

Design and inspection will be performed by competitively bid A/E contractor, under the direction of the site Management and Operating (M&O) contractor. Furniture and non-engineered equipment will be procured separate from the building construction activities if available site inventories are inadequate.

Note: The estimate is based on a completed conceptual design.

11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Total</u>
a. Total project cost						
1. Total Facility Costs						
(a) Line-Item (Section 9.i.)	\$ 0	\$ 0	\$ 1,400	\$ 3,800	\$ 12,000	\$17,200
(b) Plant Engineering and Design	0	0	0	0	0	0
(c) Operating Expense Funded Equipment	0	0	0	0	0	0
(d) Inventories	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total Facility Costs (Federal and Non-Federal)	\$ 0	\$ 0	\$ 1,400	\$ 3,800	\$ 12,000	\$17,200
2. Other Project Costs						
(a) R&D Necessary to Complete Project	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual Design Cost	1,170	0	0	0	0	1,170
(c) Decontamination and Decommissioning (D&D)	0	0	0	0	0	0
(d) NEPA Documentation Costs	40	0	0	0	0	40
(e) Other Project Related Costs	<u>0</u>	<u>0</u>	<u>160</u>	<u>170</u>	<u>760</u>	<u>1,090</u>
(f) Total Other Project Costs	\$ 1,210	\$ 0	\$ 160	\$ 170	\$ 760	\$ 2,300
(g) Total Project Cost	\$ 1,210	\$ 0	\$ 1,560	\$ 3,970	\$12,760	\$ 19,500
(h) Less: Non-Federal Contribution	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal Total Project Cost (TPC)	\$ 1,210	\$ 0	\$ 1,560	\$ 3,970	\$ 12,760	\$ 19,500

1. Title and Location of Project:	Health Physics Site Support Facility, Savannah River Site, Aiken, South Carolina	2a. Project No.: 97-D-473	ADS# SR-7265
		2b. Construction Funded	

11. Schedule of Project Funding and Other Related Funding Requirements (continued)

b. Related Annual Costs (estimated life of project - 40 years)	
1. Facility Operating Costs .....	\$ 30
2. Facility Maintenance and Repair Cost .....	46
3. Programmatic Operating Expenses Directly Related to the Facility .....	0
4. Capital Equipment Not Related to Construction But Related to the Programmatic Effort in the Facility .....	400
5. GPP or Other Construction Related to Programmatic Effort in the Facility .....	0
6. Utility Costs .....	79
7. Other Costs .....	25
Total Related Annual Costs .....	<u>\$ 580</u>

12. Narrative Explanation of Total Project Funding and Related Funding Requirements

- a. Total Project Funding
  1. Total Facility Costs
    - (a) Line Item--Narrative not required.
    - (b) Plant Engineering and Design--None.
    - (c) Operating Expense Funded Equipment--None.
    - (d) Inventories--None.
  2. Other Project Costs
    - (a) R&D Necessary to Complete Construction--None.
    - (b) Conceptual Design--Includes \$1,170,000 to prepare a Functional Design Criteria, scopes of work, preliminary drawings, conceptual estimate, conceptual design report, and a Task Order Proposed Request for A/E services.
    - (c) Decontamination and Decommissioning (D&D)--None.
    - (d) NEPA Documentation Costs--\$40,000 for an Environmental Assessment.
    - (e) Other Project-Related Costs--Include startup, equipment set-up/checkout, training, and procedure and safety documentation preparation which totals \$1,090,000.
- b. Related Annual Costs (Estimated life of project--40 years)
  1. Facility Operating Costs--existing personnel will be transferred from current locations, includes janitorial and supplies (\$30,000).
  2. Facility Maintenance and Repair Costs--Repair of equipment, HVAC, etc. (\$46,000).
  3. Programmatic Operating Expense Directly Related to the Facility--None.
  4. Capital Equipment Not Related to Construction but Related to the Programmatic Effort in the Facility--Includes upgrading of laboratory Equipment (\$400,000).
  5. GPP or Other Construction Related to the Programmatic Effort in the Facility--None.
  6. Utility Costs--Estimated at \$79,000 annually.
  7. Other costs--\$25,000.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from the FY 1997 Congressional Budget Request are denoted by a vertical line in the left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project:	Spent Nuclear Fuels Canister Storage and Stabilization Facility, Richland, Washington	2a. Project No.: 96-D-406 2b. Construction Funded	ADS# RL-6696-1
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SIGNIFICANT CHANGES

- Total estimated cost increased from \$111,416,000 to \$120,416,000 to provide for: 1) the pouring of additional Canister Storage Building concrete for added cement thickness required to maintain higher heat control to store Hanford Waste Vitrification Plant canisters and spent nuclear fuel , and 2) the Nuclear Regulatory Commission (NRC) Equivalency Implementation and Multiple Canister Overpack (MCO) Overpressurization Implementation. This joint utilization by the Tank Waste Remediation System (TWRS) and the Spent Nuclear Fuel program of the Canister Storage Building will preclude the need to retrofit the building at a later date for an estimated savings of about \$10,000,000.
- Total project cost increased from \$146,263,000 to \$157,278,000 for the same effort as mentioned above.

DEPARTMENT OF ENERGY  
 FY 1998 CONGRESSIONAL BUDGET REQUEST  
 (Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin)

NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project:	Spent Nuclear Fuels Canister Storage and Stabilization Facility, Richland, Washington	2a. Project No.: 96-D-406 2b. Construction Funded	ADS# RL-6696-1
3a. Date A-E Work Initiated, (Title I Design Start Scheduled):	1st Qtr. FY 1996	5. Previous Cost Estimate: Total Estimated Cost (TEC) -- \$111,416 Total Project Cost (TPC) -- \$146,263	
3b. A-E Work (Titles I & II) Duration:	24 months		
4a. Date Physical Construction Starts:	2nd Qtr. FY 1996	6. Current Cost Estimate: <u>a/</u> TEC -- \$120,416 TPC -- \$157,278	
4b. Date Construction Ends:	1st Qtr. FY 1999		
7. <u>Financial schedule (Federal Funds)</u>			

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1996	\$ 42,000 <u>b/</u>	\$ 1,000 <u>c/</u>	\$ 43,000	\$ 31,988
1997	60,672	0	60,672	54,000
1998	16,744	0	16,744	32,428
1999	0	0	0	2,000

- a/ The TEC and TPC is increased from \$111,416,000 to \$120,416,000 and \$146,263,000 to \$157,278,000, respectively. This increase is to provide for: 1) the pouring of additional Canister Storage Building concrete for added cement thickness required to maintain higher heat control to store Hanford Waste Vitrification Plant canisters and spent nuclear fuel, and 2) the Nuclear Regulatory Commission (NRC) Equivalency Implementation and Multiple Canister Overpack (MCO) Overpressurization Implementation.
- b/ As the FY 1998 budget is prepared on a noncomparable basis, it should be noted that the FY 1996 funding for this project was budgeted in the Office of Waste Management account.
- c/ FY 1996 internal reprogramming to provide for additional concrete pouring.



1. Title and Location of Project:	Spent Nuclear Fuels Canister Storage and Stabilization Facility, Richland, Washington	2a. Project No.: 96-D-406
		2b. Construction Funded

8. Project Description, Justification and Scope

This Major System Acquisition (MSA) project consists of all the activities necessary to safely stabilize and store approximately 2,100 metric tons of spent N-Reactor fuel currently stored at the 100 K East and West facilities. There are three specific subprojects within this MSA as follows:

a. Subproject #01 - Canister Storage Building (CSB) (W-379)

<u>TEC</u>	<u>FY 1995</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Construction Start - Completion Dates</u>	
* \$92,390	\$ 0	\$39,900	\$44,664	\$7,826	\$ 0	2nd Qtr. FY 1996	1st Qtr. FY 1998

\* The Canister Storage Building (CSB) from Hanford's Waste Vitrification Plant (HWVP) Project will be modified to also provide long-term, dry storage for spent fuel removed from the 100 K East and West basins and an annex to facilitate final conditioning. The fuel will be stored in Multiple Canister Overpacks (MCO's) at the CSB. The MCO pressurization implementation dictate that the CSB and its operating equipment be designed and built to accommodate blowdown of an MCO. The facility will also serve as a staging area for the fuel prior to final conditioning.

\* This facility is envisioned to consist of 2,900 square meters (31,580 square feet), of which approximately 2,310 square meters (23,160 square feet) will be available for storage and 590 square meters (6,420 square feet) for loading, handling and service areas. The NRC Equivalency Requirement Implementation necessitates that the CSB be designed and constructed to withstand tornado loadings which result in design and construction of "hardened" elements of the CSB.

\* Following hot conditioning, fuel will be returned to the CSB vault area where it will be placed, via a MCO handling machine (MHM), in storage positions and cooled by natural outside air circulation. The fuel could remain in storage for up to 40 years or until a suitable repository becomes available. Following fuel removal, the facility will be deactivated and decommissioned.

Currently, spent Hanford N-Reactor fuel is stored in unlined, concrete water-filled basins that are not seismically qualified and are located approximately 93.3 meters (100 yards) from the Columbia River. Any significant seismic event could cause a very serious hazard to the environment and potentially place the health and well being of the surrounding community in jeopardy.

\* The FY 1998 appropriation will be used to complete Canister Storage Building construction.

**Conditioning Facilities**

Planned conditioning provides facilities and process equipment which reduces N-Reactor spent nuclear fuel volatility in preparation for dry stockpiling at Hanford's Canister Storage Building.



1. Title and Location of Project:	Spent Nuclear Fuels Canister Storage and Stabilization Facility, Richland, Washington	2a. Project No.: 96-D-406
		2b. Construction Funded

9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and management costs .....		\$ 37,588
1. Engineering design and inspection at approximately 29.4 percent of construction costs (item c) .....	\$ 23,417	
2. Construction management costs at approximately 6.5 percent of construction costs (item c) .....	5,178	
3. Project management at 11.3 percent of construction costs (item c) .....	8,993	
b. Land and land rights .....		0
c. Construction costs .....		79,713
1. Improvements to land .....	0	
2. Buildings .....	53,213	
3. Other structures .....	0	
4. Utilities .....	2,120	
5. Special facilities .....	24,380	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
h. Subtotal (a through g) .....		\$117,301
i. Contingencies at approximately 2.7 percent of above costs .....		<u>3,115</u>
j. Total line item cost (section 11.a.1.[a]) .....		\$120,416
k. Less: Non-Federal contribution .....		<u>0</u>
l. Net Federal total estimated costs (TEC) .....		<u>\$120,416</u>

1. Title and Location of Project:	Spent Nuclear Fuels Canister Storage and Stabilization Facility, Richland, Washington	2a. Project No.: 96-D-406
		2b. Construction Funded

10. Method of Performance

Design and inspection shall be performed under a negotiated contract with an architect/engineer. Construction and procurement will be accomplished by fixed-price contracts and subcontracts awarded on the basis of competitive bidding.

11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>TOTAL</u>
a. Total project costs						
1. Total facility costs						
(a) Line item (Section 9.j.) . . . . .	\$ 0	\$ 31,988	\$54,000	\$32,428	\$ 2,000	\$120,416
(b) Plant engineering and design . . . . .	0	0	0	0	0	0
(c) Operating expense funded equipment . . . . .	0	0	0	0	0	0
(d) Inventories . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total facility cost (Federal and Non-Federal) . . . . .	\$ 0	\$ 31,988	\$54,000	\$32,428	\$ 2,000	\$120,416
2. Other project costs						
(a) R&D necessary to complete project . . . . .	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs . . . . .	1,929	1,041	0	0	0	2,970
(c) Decontamination and decommissioning (D&D) . . . . .	0	0	0	0	0	0
(d) NEPA documentation costs . . . . .	100	372	629	245	0	1,346
(e) Other project-related costs . . . . .	<u>4,240</u>	<u>6,153</u>	<u>12,078</u>	<u>9,575</u>	<u>500</u>	<u>32,546</u>
(f) Total other project costs . . . . .	<u>\$ 6,269</u>	<u>\$ 7,566</u>	<u>\$12,707</u>	<u>\$9,820</u>	<u>\$ 500</u>	<u>\$ 36,862</u>
(g) Total project costs . . . . .	\$ 6,269	\$ 39,554	\$66,707	\$42,248	\$ 2,500	\$157,278
(h) Less: Non-federal contribution . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal total project cost (TPC) . . . . .	<u>\$ 6,269</u>	<u>\$ 39,554</u>	<u>\$66,707</u>	<u>\$42,248</u>	<u>\$ 2,500</u>	<u>\$157,278</u>

1. Title and Location of Project:	Spent Nuclear Fuels Canister Storage and Stabilization Facility, Richland, Washington	2a. Project No.: 96-D-406
		2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs (estimated useful life of each facility--40 years).

1. Facility operating costs .....	\$14,300	a/
2. Facility maintenance and repair costs .....	0	
3. Programmatic operating expenses directly related to the facility .....	0	
4. Capital equipment not related to construction but related to the programmatic effort in the facility .....	0	
5. GPP or other construction related to the programmatic effort in the facility .....	0	
6. Utility costs .....	0	
7. Other costs .....	0	
Total related annual costs .....	<u>\$14,300</u>	

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project funding

1. Total facility costs

- (a) Line item--\$120,416,000 is the total estimated cost for the facility including the buildings, grounds and equipment and utilities.
- (b) Plant engineering and design--None.
- (c) Expense-funded equipment--None.
- (d) Inventories--None.

2. Other project costs (All costs are escalated to the year of expenditure)

- (a) R&D necessary to complete construction--None.
- (b) Conceptual design--Costs of approximately \$2,970,000 to develop the scope of the project, design parameters, technical feasibility, and to improve the project cost and schedule estimates.
- (c) Decontamination and decommissioning (D&D)--None.
- (d) NEPA documentation--\$1,346,000. The Canister Storage Building will be discussed in the K-Basins EIS. The Record of Decision has been issued in March 1996.
- (e) Other project-related costs--Costs of approximately \$32,546,000 are expected to perform startup functions and to develop the functions and requirements, Safety and Regulatory, and validation documentation.

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a/ The estimated facility operating costs have been averaged over a 40 year total service life period.

1. Title and Location of Project:	Spent Nuclear Fuels Canister Storage and Stabilization Facility, Richland, Washington	2a. Project No.: 96-D-406
		2b. Construction Funded

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs

1. Facility operating costs--Facility operating costs are expected to start in FY 1998 at \$14,300,000, increase to \$22,677,000 in FY 1999, then start to decrease to \$13,835,000 in FY 2000 with continued decrease to about \$1,800,000 in FY 1995 dollars over the next 37 years. The Canister Storage Building replaces 100 K area basins, which currently requires in excess of \$44,000,000 to operate. The cost of the Canister Storage Building operations, both near and long term, are considerably less than the K-Basin operations costs.
2. Facility maintenance and repair costs--The facility maintenance and repair costs are included in the operating costs.
3. Programmatic operating expenses directly related to the facility--None.
4. Capital equipment not related to construction but related to the programmatic effort in the facility--None.
5. GPP or other construction related to the programmatic effort in the facility--None.
6. Utility costs--None.
7. Other costs--None.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from the FY 1997 Congressional Budget Request are denoted by a vertical line in the left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

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1. Title and Location of Project:	Electrical Distribution Upgrade, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 96-D-461 2b. Construction Funded	ADS# ID-6318-0
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SIGNIFICANT CHANGES

- The total estimated cost (TEC) and total project cost (TPC) have been reduced from \$10,879,000 to \$10,756,000 and \$11,676,000 to \$11,422,000, respectively. The reductions are a result of the productivity initiative and overall reductions to costs associated with project and construction management activities and prioritized workscope.

DEPARTMENT OF ENERGY  
 FY 1998 CONGRESSIONAL BUDGET REQUEST  
 (Changes from the FY 1996 Congressional Budget Request are denoted by a vertical line in the left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project: Electrical Distribution Upgrade, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 96-D-461 2b. Construction Funded	ADS# ID-6318-0
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3a. Date A-E Work Initiated, (Title I Design Start Scheduled): 2nd Quarter FY 1996  3b. A-E Work (Titles I and II) Duration: 20 months	5. Previous Cost Estimate: Total Estimated Cost (TEC) -- \$10,879 Total Project Cost (TPC) -- \$11,676
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4a. Date Physical Construction Starts: 4th Quarter FY 1996  4b. Date Construction Ends: 2nd Quarter FY 1999	6. Current Cost Estimate: <u>a/</u> TEC -- \$10,756 TPC -- \$11,422
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7. Financial Schedule (Federal Funds)

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1996	\$ 1,039	\$ 0	\$ 1,039	\$ 126
1997	6,790	0	6,790	4,733
1998	2,927	0	2,927	4,747
1999	0	0	0	1,150

a/ The TEC and TPC have been reduced (TEC \$10,879,000 to \$10,756,000 / TPC \$11,676,000 to \$11,422,000) under approved baseline change proposals. The reductions are a result of 1) FY 1996 indirect cost reductions associated with the Nuclear Material and Facility Stabilization productivity initiative, 2) overall reductions to costs associated with project and construction management activities and, 3) reductions in prioritized workscope.



1. Title and Location of Project:	Electrical Distribution Upgrade, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 96-D-461 2b. Construction Funded	ADS# ID-6318-0
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#### 8. Project Description, Justification and Scope

The Idaho National Engineering Laboratory's (INEL) Electrical Distribution Upgrade provides for the planning, management, design, procurement, and construction activities to upgrade portions of the INEL electrical distribution system which provides numerous users with reliable electrical power. This project is necessary to provide reliability and maintainability of the electrical distribution system.

The upgrade consists of 1) resolution and correction of code and standard deficiencies, and 2) correction of age, deterioration and obsolescence conditions. The extent of scope of this project will start at the secondary connections of the 138 kilovolts (kV) step down transformers and go to the service disconnects at the utilization area. The scope will include but not be limited to such things as conductor deterioration, conductor termination, electrical clearance and sag, pole and pole hardware general condition, transformer condition, transform hardware and grounding condition, general electrical grounding, transformer pad and electrical duct deterioration, substation interior and fencing requirements, minimum required protective relaying, fusing and circuit breaker protection, and any other unsafe, worn out, or insufficient condition found whether governed by a code requirement or not. These items have been identified as major items of scope; however, additional deficiencies identified during studies and design efforts will be prioritized and included in this project as funding allows.

This project will upgrade portions of the electrical distribution system which supplies electrical power to numerous users at the INEL including nationally recognized energy research programs, nuclear reactor test research programs, radioactive waste reduction/processing facilities, and associated safeguard and security facilities throughout the 900 square miles of the INEL.

The INEL electrical system comprises 65 miles of overhead transmission lines and seven substations. Each of these substations feeds users through electrical distribution systems. These systems include substation equipment, overhead/underground distribution lines, distribution equipment, and service entrance drops. Most of the system was installed circa 1950 and requires upgrades to maintain its reliability and maintainability. The INEL Electrical Upgrade (FY 1993) project addresses the upgrades required on the 138 kV transmission system. This project addresses the distribution system on the load side of the 138 kV step down transformer to the service disconnects at the utilization area.

The electrical distribution system has operated reliably and an excellent safety record has been maintained over the past years. However, safety codes deemed applicable to the INEL have changed as have requirements and applicable codes enforced at the time of construction. This has resulted in numerous violations of the present design with these safety codes. It is necessary that the system changes be made, so that existing codes and standards can be adhered to and a high level of safety and reliability be maintained.

1. Title and Location of Project:	Electrical Distribution Upgrade, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 96-D-461	ADS# ID-6318-0
		2b. Construction Funded	

8. Project Description, Justification and Scope (Continued)

If deficiencies are not corrected, it is expected that the system will degrade below acceptable reliability and maintenance levels, as various system components, which already exceed their design life, continue to age. Routine system maintenance is becoming increasingly difficult and expensive to accomplish. Spare parts from many of the system components are no longer available from the manufacturer or are difficult to obtain due to obsolescence. Spare parts used for repairs are often obtained by cannibalizing standby equipment or rebuilding failed components. This leads to increased system downtime and the potential for recurring failure, since these parts have the same age associated problems.

FY 1998 funds will be used to complete design and construction to provide reliability and maintainability of the electrical distribution system.

1. Title and Location of Project:	Electrical Distribution Upgrade, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 96-D-461 2b. Construction Funded
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ADS# ID-6318-0

9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and management costs .....		\$ 1,957
1. Engineering design and inspection at approximately 17.4 percent of construction costs (item c) .....	\$ 1,066	
2. Construction management costs at approximately 8.0 percent of construction costs (item c) .....	493	
3. Project management at 6.5 percent of construction costs (item c) .....	398	
b. Land and land rights .....		0
c. Construction costs .....		6,140
1. Improvements to land .....	0	
2. Buildings .....	0	
3. Other structures .....	0	
4. Utilities .....	6,140	
5. Special facilities .....	0	
d. Standard equipment .....		505
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
Subtotal .....		\$ 8,602
h. Contingency at approximately 25 percent of above costs .....		<u>2,154</u>
i. Total line item cost (Section 11.a.1.(a)) .....		\$ 10,756
j. Less: Non-Federal contribution .....		<u>0</u>
k. Net Federal total estimated cost (TEC) .....		\$ 10,756

1. Title and Location of Project:	Electrical Distribution Upgrade, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 96-D-461 2b. Construction Funded	ADS# ID-6318-0
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10. Method of Performance

The Department of Energy Idaho Operations Office (DOE-ID) shall be responsible for implementation of the project, including selection of principal contractors and approval of specified procurement actions. DOE-ID project management shall be performed by Construction Management, Office of Program Execution. Administrative and other project support shall be furnished to the project on a matrix basis by the DOE-ID organization.

The Lockheed Idaho Technologies Company (LITCO) shall be the operating contractor responsible for the development of the project's technical requirements, completion of the Architectural and Engineering Design, review and management of the engineering and construction activities, procurement of selected equipment, construction subcontracting, checkout of systems, and maintenance of the completed project. The LITCO project management and construction management shall be performed by the Site Services Organization as required to complete the project in a timely, safe, and cost-effective manner.

Each fiscal year of funding will be used to complete the design and construction of a defined portion of the project workscope. This divides the project scope into three parts, each scheduled to start design approximately 1 year apart.

1. Title and Location of Project:	Electrical Distribution Upgrade, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 96-D-461 2b. Construction Funded	ADS# ID-6318-0
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11. Schedule of Project Funding and Other Related Funding Requirements

	Previous Years	FY 1996	FY 1997	FY 1998	FY 1999	Total	
a. Total project costs							
1. Total facility costs							
(a) Line item (Section 9.i.)	\$ 0	\$ 126	\$ 4,733	\$ 4,747	\$ 1,150	\$ 10,756	
(b) Plant engineering and design	0	0	0	0	0	0	
(c) Operating expense funded equipment	0	0	0	0	0	0	
(d) Inventories	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	
(e) Total facility cost (Federal and Non-Federal) .. \$	\$0 126	\$ 4,733	\$ 4,747	\$ 1,150	\$ 10,756		
2. Other project costs							
(a) R&D necessary to complete project	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	
(b) Conceptual design costs	350	0	0	0	0	350	
(c) Decontamination and decommissioning (D&D) 0	0	0	0	0	0	0	
(d) NEPA documentation costs	0	0	0	0	0	0	
(e) Other project-related costs	<u>16</u>	<u>50</u>	<u>72</u>	<u>178</u>	<u>0</u>	<u>316</u>	
(f) Total other project costs	\$ <u>366</u>	\$ <u>50</u>	\$ <u>72</u>	\$ <u>178</u>	\$ <u>0</u>	\$ <u>666</u>	
(g) Total project cost	\$ 366	\$ 176	\$ 4,805	\$ 4,925	\$ 1,150	\$ 11,422	
(h) Less: Non-Federal contribution	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	
(i) Net Federal total project cost (TPC)	\$ 366	\$ 176	\$ 4,805	\$ 4,925	\$ 1,150	\$ 11,422	
b. Related annual costs (estimated life of project--20 to 40 years)							
1. Facility operating costs							\$ 0
2. Facility maintenance and repair costs							0
3. Programmatic operating expenses directly related to the facility							0
4. Capital equipment not related to construction but related to the programmatic efforts in the facility							0
5. GPP or other construction related to programmatic effort in the facility							0
6. Utility costs							0
7. Other costs							<u>0</u>
Total related annual costs							\$ 0

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1. Title and Location of Project:	Electrical Distribution Upgrade, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 96-D-461
		2b. Construction Funded

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ADS# ID-6318-0

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project funding

1. Total facility costs

- (a) Line item-Narrative not required.
- (b) Plant Engineering and Design--None.
- (c) Expense-funded equipment--None.
- (d) Inventories--None.

2. Other project costs

- (a) R&D necessary to complete construction--None.
- (b) Conceptual design--\$350,000 was required for the completion of field inspections and conceptual design.
- (c) Decontamination and decommissioning (D&D)--None.
- (d) NEPA documentation costs--None.
- (e) Other project-related costs--\$316,000

b. Other related annual costs

- 1. Facility operating costs--None.
- 2. Facility maintenance and repair costs--None.
- 3. Programmatic operating expense directly related to the facility--None.
- 4. Capital equipment not related to construction but related to the programmatic effort in the facility--None.
- 5. GPP or other construction related to the programmatic effort in the facility--None.
- 6. Utility costs--None.
- 7. Other costs--None.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from the FY 1997 Congressional Budget Request are denoted with a vertical line in left margin)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

Project:	Electrical and Utility Systems Upgrade, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho	1. 2a. Project No.: 96-D-464 2b. Construction Funded	Title and Location of ADS# ID-6329-WN
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SIGNIFICANT CHANGES

- Reduced total estimated cost (TEC) from \$62,280,000 to \$53,452,000 and total project cost (TPC) from \$76,690,000 to \$67,849,133 as a result of re-evaluating/re-engineering the project systems/layout to generate reductions in the following areas:
  - Reduced Standby Power System installed capacity by elimination of loads and prioritized load shedding.
  - Reduced the number of required substations by locating the Standby Power System generators (relocated Coal Fired Facility generator and a new generator) in conjunction with proposed New Waste Calcining Facility substation.
  - Eliminated the new duct bank to the Coal Fired Facility and rerouted the duct bank to substation 40/load center 14 along Redwood Street rather than outside the fence.
  - Eliminated panel replacement in CPP-659 and CPP-666 from redesign and new fault current analysis.
  - Eliminated panel and service entrance work that was completed by others since the Electrical and Utility Systems Upgrade (EUSU) Conceptual Design was issued.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from the FY 1997 Congressional Budget Request are denoted by a vertical line in the left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

Project:	Electrical and Utility Systems Upgrade, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho	1. 2a. Project No.: 96-D-464 2b. Construction Funded	Title and Location of ADS# ID-6329-WN
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3a. Date A-E Work Initiated, (Title I Design Start Scheduled): 2nd Quarter FY 1996	5. Previous Cost Estimate: Total Estimated Cost (TEC) -- \$62,280 Total Project Cost (TPC) -- \$76,690
3b. A-E Work (Titles I and II) Duration: 30 months	

4a. Date Physical Construction Starts: 3rd Quarter FY 1997	6. Current Cost Estimate: <u>a/</u> TEC -- \$53,452 TPC -- \$67,849
4b. Date Construction Ends: 1st Quarter FY 2002	

7. Financial Schedule (Federal Funds)

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1996	\$ 4,952	\$ -440 <u>b/</u>	\$ 4,512	\$ 2,756
1997	10,440	0	10,440	10,755
1998	38,500	0	14,985	13,572
1999	0	0	11,544	11,748
2000	0	0	11,971	9,068
2001	0	0	0	4,305
2002	0	0	0	1,248

a/ The TEC and TPC have been reduced (TEC \$62,280,000 to \$53,452,000 and TPC \$76,690,000 to \$67,849,133). The reductions are a result of reevaluation of lower risk/lower priority electrical workscope as well as value engineering activities to remove/eliminate the required number of substations, reduce standby power stations, and eliminate service runs which are no longer required.

b/ Directed reduction of \$440,000 in FY 1996 to meet the uncoded reduction imposed by Congress.



1. Title and Location of Project:	Electrical and Utility Systems Upgrade, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 96-D-464 2b. Construction Funded
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8. Project Description, Justification and Scope

The Electrical and Utility Systems Upgrade (EUSU) project will upgrade the Idaho Chemical Processing Plant (ICPP) electrical utility system by correcting high risk environmental, health, and life safety deficiencies. Correction of these deficiencies will reduce health and safety risks and provide safe and reliable utilities to support the ICPP mission. The ICPP electrical utility supply and distribution systems provide the infrastructure necessary to support plant operations. The system is outdated, overloaded, and not in compliance with DOE orders, or national codes and standards. These factors, combined with plant-wide growth, have utilized the capacity of the electrical distribution system and increased the potential health and safety risks associated with long-term use and maintenance of this ICPP utility system.

The scope of this project includes upgrades to normal and standby power/electrical systems. The system upgrades, improvements, and corrections listed in order of priority, include:

- a. installation of a new 13.8 kilovolt-amperes (kVA) high voltage electrical ductbank and manhole system (approximately 15,000 linear feet) to correct high-low-voltage separation code compliance and safety problems;
- b. upgrading, relocating, or new installation of approximately seven 13.8 kVA substations and approximately eight load centers to eliminate overloaded conditions on existing electrical distribution equipment;
- c. upgrading the existing standby power network and control system and installation of one new 2,000 kVA (nominal) diesel generator to provide reliable standby power during commercial power outages to equipment that provides for containment and control of radioactive and fissile materials, environmental monitoring, security functions, or personnel and property protection;
- d. replacement of approximately two hundred 20-40 year old panelboards and associated switchgear in 15-20 existing buildings that presently present a significant fire hazard;
- e. reconfiguration of electrical service equipment in approximately 4-8 existing buildings to eliminate multiple electric service entrances that violate code and constitute fire response safety hazards;

The ICPP electrical utility system provides the infrastructure services required to support the safe operation and maintenance of the site facilities. The EUSU project feasibility studies and various Lockheed Idaho Technologies Company (LITCO) self assessment studies have shown that the electrical utility distribution system at the ICPP, because of its age, use, and rapid growth in utility requirements, is unsafe, unreliable, or violates DOE orders, DOE-ID A-E standards, and industry codes and standards, with significant health and safety implications. These utility systems are also rapidly approaching severe overload conditions. These high risk deficiencies, along with the system overload, jeopardize the ability of the electrical utility system to support the DOE mission at the ICPP to safely receive, inspect, store, and condition for disposal of spent nuclear fuel and manage radioactive wastes generated from fuel handling activities while protecting the safety of the workers, the public, and the environment.

1. Title and Location of Project:	Electrical and Utility Systems Upgrade, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 96-D-464 2b. Construction Funded
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8. Project Description, Justification and Scope (Continued)

The ICPP electrical power distribution system is approaching its design capacity. In April 1992, the ICPP power usage reached its highest level (13 MVA, 93 percent of rated 14 MVA capacity) since the plant began operations, even though all fuel processing has been discontinued. The capacity of the eight existing 13.8 kV feeders in the electrical power distribution system will be overloaded or at rated capacity by 1995. These feeders are expected to become overloaded as new facilities and equipment loads are added to support the new ICPP mission. The majority of the ICPP electrical manholes presently contain a mixture of high-voltage, low-voltage power, and low-voltage non-power (communication, alarms, security) circuits without proper separation, which is prohibited by the National Electric Code (NEC) and other safety codes. Several of the existing distribution centers exceed their rated capacities during peak load periods. Several load centers have insufficient electrical current interrupting ratings which constitute a potential explosion and fire hazard. In many facilities, power is supplied to many different locations within a building representing a hazard during a fire or maintenance activities. Many of the service entrance conductors and internal distribution panels are not adequately protected against short circuit conditions. Many panels, raceways, and conductors are not installed in accordance with safe NEC required practices. Two of the four primary standby generators have connected loads several times over their continuous ratings with expected maximum demand exceeding the rated capacities. Such deficiencies represent potential safety hazards to operational and maintenance personnel. Also, many of these 40 year old facilities have deteriorating and obsolete equipment with spare parts no longer available from suppliers.

Upgrades to the ICPP electrical utility distribution system is essential to: (1) provide for safe operation of site facilities vital to the ICPP mission, (2) provide a safe work place for employees, (3) minimize risk of property damage as well as damage to the environment, and (4) provide adequate capacity to support the DOE mission.

The FY 1998 appropriation will be used to complete project construction.

1. Title and Location of Project:	Electrical and Utility Systems Upgrade, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 96-D-464 2b. Construction Funded
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9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and management costs .....		\$ 16,236
1. Engineering design and inspection at approximately 34.4 percent of construction costs (item c) .....	\$ 8,094	
2. Construction management costs at approximately 25.8 percent of construction costs (item c) .....	6,064	
3. Project management at 8.8 percent of construction costs (item c) .....	2,078	
b. Land and land rights .....		0
c. Construction costs .....		23,520
1. Improvements to land .....	689	
2. Buildings .....	1,763	
3. Other structures .....	0	
4. Utilities .....	21,068	
5. Special facilities .....	0	
d. Standard equipment .....		80
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		<u>2,293</u>
h. Subtotal (a through g) .....		\$ 42,129
i. Contingencies at approximately 27 percent of above costs .....		<u>11,323</u>
j. Total line item cost (Section 11.a.1.[a]) .....		\$ 53,452
k. Less: Non-Federal contribution .....		<u>0</u>
l. Net Federal total estimated cost (TEC) .....		\$ <u>53,452</u>

Note: Revised estimate based on completed advanced conceptual design. Escalation for each activity is calculated as the sum of the yearly allocated expenditure times the yearly compounded escalation rate of 3.0 percent.

10. Method of Performance

Design will be performed by the operating contractors Facility Engineering (design) Organization. Construction and procurement will be accomplished by fixed price contracts and subcontracts awarded on the basis of competitive bidding to the maximum extent possible. Title III inspection will be accomplished by the operating contractor.

1. Title and Location of Project:	Electrical and Utility Systems Upgrade, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 96-D-464 2b. Construction Funded
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11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Total</u>
a. Total project costs						
1. Total facility costs						
(a) Line item (Section 9.j.)	\$ 0	\$ 2,756	\$ 10,755	\$ 13,572	\$ 26,369	\$53,452
(b) Plant engineering and design	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0
(d) Inventories	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total facility cost (Federal and Non-Federal)	\$ 0	\$ 2,756	\$ 10,755	\$ 13,572	\$ 26,369	\$53,452
2. Other project costs						
(a) R&D necessary to complete project	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs	4,623	772	0	0	0	5,395
(c) Decontamination and decommissioning (D&D)	0	0	0	0	0	0
(d) NEPA documentation costs	83	0	0	0	0	83
(e) Other project-related costs	<u>0</u>	<u>413</u>	<u>1,248</u>	<u>2,114</u>	<u>5,144</u>	<u>8,919</u>
(f) Total other project costs	\$ <u>4,706</u>	\$ <u>1,185</u>	\$ <u>1,248</u>	\$ <u>2,114</u>	\$ <u>5,144</u>	\$ <u>14,397</u>
(g) Total project cost	\$ 4,706	\$ 3,941	\$ 12,003	\$ 15,686	\$ 31,513	\$ 67,849
(h) Less: Non-Federal contribution	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal total project cost (TPC)	<u>\$ 4,706</u>	<u>\$ 3,941</u>	<u>\$ 12,003</u>	<u>\$ 15,686</u>	<u>\$ 31,513</u>	<u>\$ 67,849</u>
b. Related annual costs (estimated useful life of facility--20 to 40 years)						
1. Total operating costs					\$ 800	
2. Facility maintenance and repair costs					750	
3. Programmatic operating expenses directly related to the facility					0	
4. Capital equipment not related to construction but related to the programmatic efforts in the facility					0	
5. GPP or other construction related to programmatic effort in the facility					0	
6. Utility costs					0	
7. Other costs					<u>0</u>	
Total related annual costs					<u>\$ 1,550</u>	

1. Title and Location of Project:	Electrical and Utility Systems Upgrade, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 96-D-464 2b. Construction Funded
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12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

- a. Total project funding
  - 1. Total facility costs
    - (a) Line item--The TEC is based on a detailed conceptual design cost estimate validated by a team of INEL cost estimators.
    - (b) Plant engineering and design--None.
    - (c) Expense-funded equipment--None.
    - (d) Inventories--None.
  - 2. Other project costs
    - (a) R&D necessary to complete construction--None.
    - (b) Conceptual design--Spending in FY 1993, FY 1994, FY 1995, and FY 1996 include costs for feasibility studies, conceptual design, advanced conceptual design, project planning, cost and schedule planning, project plan and charter, project management plan, quality assurance program plan, project design criteria, special studies, and value engineering (\$5,395,000).
    - (c) Decontamination and decommissioning (D&D)--None.
    - (d) NEPA documentation--An Environmental Checklist/Request for Categorical Exclusion was submitted in FY 1994. The NEPA Categorical Exclusion (CX) was approved March 7, 1994. No further NEPA funds are anticipated for this project (\$83,000).
    - (e) Other project related costs--Funds are required to support the following activities: (1) project planning, (2) construction management planning, (3) QA/inspection planning, (4) project management for design support, construction support, testing, and startup, (5) safety analyses and reports, (6) readiness reviews for startup and operation, (7) operating tests, (8) training of operating and maintenance personnel, and (9) general technical support and software development (\$8,919,000).

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (Continued)

- b. Related annual costs
  - 1. Facility operating costs include operating labor costs--\$800,000.
  - 2. Facility maintenance and repair costs include spare parts and maintenance costs--\$750,000.
  - 3. Programmatic operating expenses directly related to the facility--None.
  - 4. Capital equipment cost not related to construction but related to the programmatic effort in the facility--None.
  - 5. GPP or other construction related to the programmatic effort in the facility--None.
  - 6. Utility costs--None.
  - 7. Other costs--None.

DEPARTMENT OF ENERGY  
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(Changes from the FY 1997 Congressional Budget Request are denoted by a vertical line in the left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project:	CFC HVAC/Chiller Retrofit, Savannah River Site, Aiken, South Carolina	2a. Project No. 96-D-471	ADS# SR-7262
		2b. Construction Funded	

SIGNIFICANT CHANGES

- No significant changes.

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NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project:	CFC HVAC/Chiller Retrofit, Savannah River Site, Aiken, South Carolina	2a. Project No. 96-D-471	ADS# SR-7262
		2b. Construction Funded	
3a. Date A-E Work Initiated, (Title I Design Start Scheduled):	1st Qtr. FY 1996	5. Previous Cost Estimate:	
		Total Estimated Cost (TEC) --	\$45,000
3b. A-E Work (Titles I & II) Duration:	51 months	Total Project Cost (TPC) --	\$58,500
4a. Date Physical Construction Starts:	3rd Qtr. FY 1996	6. Current Cost Estimate:	
		TEC --	\$45,000
4b. Date Construction Ends:	3rd Qtr. FY 2002	TPC --	\$58,500
7. <u>Financial Schedule (Federal Funds):</u>			

<u>Fiscal Year</u>	<u>Appropriations</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1996	\$ 1,500	\$ 0	\$ 1,500	\$ 699
1997	8,541	0	8,541	8,463
1998	34,959	0	8,500	8,348
1999	0	0	8,000	7,857
2000	0	0	7,500	8,156
2001	0	0	10,959	7,851
2002	0	0	0	3,626

1. Title and Location of Project:	CFC HVAC/Chiller Retrofit, Savannah River Site, Aiken, South Carolina	2a. Project No. 96-D-471	ADS# SR-7262
		2b. Construction Funded	

8. Project Description, Justification and Scope

DRIVERS

Current legislation banned Chlorofluorcarbon (CFC) production in December 1995. Continued CFC use is allowed under strict maintenance and operation regimens. However, the free market pricing mechanisms and DOE policy severely discourage procurement of replacement CFCs. In order to continue operations, the DOE must eventually end its reliance upon CFCs for all cooling applications.

CFC MISSION

Due to the regulatory requirements as well as the related impending CFC shortages, it is imperative that action be taken to preserve EM mission capability by instituting CFC management for conserving this limited resource pending replacement by non-CFCs, to reduce the continued cost of operation through increased energy efficiency, and to protect the environment from further damage. Ultimately, this program will eliminate the use of ozone-depleting CFCs to ensure compliance with the Environmental Protection Agency (EPA) Stratospheric Ozone Protection Amendment of the Clean Air Act.

This project provides for the elimination of the use of ozone-depleting substances CFCs to ensure compliance with the EPA stratospheric ozone protection amendment of the Clean Air Act through construction and/or modifications as site upgrades and replacement, utilities, and minor structures required for activities at the Savannah River Site. A project of this type cannot be fully detailed in advance due to changing mission requirements, unexpected catastrophic equipment failures, environmental compliance schedules, etc. The subprojects identified are examples of chillers under consideration. This approach is based upon similar endeavors by other federal agencies, such as the General Services Administration. In general, the estimated funding for each location and listed subprojects is preliminary in nature and primarily indicative of the size of the subproject and the relative magnitude of the requirements. It should be noted also that the continuing study of requirements will result in changes in scope of some of the subprojects.

Refrigerant and cooling requirements are the principal use for ozone-depleting substances (CFCs) at the SRS (with Halon fire suppression and specialized solvent cleaning operations comprising the remaining usage). The program will eliminate the use of CFCs used in refrigeration and cooling in chillers, direct expansion air conditioners, process coolers, and other refrigeration equipment. (Halon and solvent cleaning usage is already being addressed by site waste minimization activities and the use of non-CFC based fire protection methodologies.) Small window and wall slot air conditioners and other equipment with refrigerant charges of 10 pounds or less will be replaced when leaks are detected or at the end of their useful life with new equipment utilizing non-CFC refrigerants, and are not addressed under this program. The ultimate disposal or destruction of CFC refrigerants is not considered as part of this effort.



1. Title and Location of Project:	CFC HVAC/Chiller Retrofit, Savannah River Site, Aiken, South Carolina	2a. Project No. 96-D-471	ADS# SR-7262
		2b. Construction Funded	

8. Project Description, Justification and Scope (Continued)

The principal CFC refrigerants found on the SRS include R-11, R-12, R-113, R-114, R-502, and R-503. Replacement non-CFC refrigerants/systems are already commercially available, and no development activity is required. However, since some non-CFC refrigerant replacements are generally of a higher toxicity, additional ventilation and monitoring systems may be required for some of the modified systems to comply with industry standards.

Aging control systems may also require upgrade in order to interface with modern replacement systems. Asbestos and other potential contaminants found during equipment replacement/retrofit may require abatement, containment, or remediation. In modifying existing systems, required utilities and distribution connections and demolition and disposal may be necessary for non-salvageable components and systems.

The following legislative actions have been considered in the formulation of the CFC Heating, Ventilation, and Air Conditioning (HVAC) Chiller Retrofit Project:

- Title VI of the Clean Air Act, as amended, which mandates a curtailment of ozone-depleting substance production.
- Title III of the Clean Air Act, as amended, waives the Government's sovereign immunity under Section 302(e) and subjects "...any agency, department, or instrumentality of the United States and any officer, agent, or employee thereof" to the provisions of the Act. The Federal Enforcement provisions outlined in Section 113 include civil and criminal penalties for knowingly violating the provisions.
- The *Refrigerant Recycling Rule* as given in 58 FR 28660 allows a maximum leakage of 15 percent per annum of a refrigerant system's charge of CFC working fluid.
- Title 40 of the Federal Regulations addresses air pollution in general. The EPA final rule (40 CFR 82, "Production and Consumption Controls," 12/10/93) accelerates the phase-out of Class I substances.
- Executive Order 12856 of 1993 addresses federal compliance with right-to-know laws and pollution prevention requirements, and stipulates 50 percent reduction in leakage/emission of Emergency Planning and Community Right-to-Know Act chemicals by December 31, 1991, including some CFCs.
- The National Pollution Prevention Act of 1990.
- Executive Order 12843 addresses procurement policies for ozone-depleting substances.

1. Title and Location of Project:	CFC HVAC/Chiller Retrofit, Savannah River Site, Aiken, South Carolina	2a. Project No. 96-D-471	ADS# SR-7262
		2b. Construction Funded	

8. Project Description, Justification and Scope (Continued)

The Chlorofluorocarbon HVAC-Chiller Retrofit Project has been planned to provide a consistent prioritization method for the application of scarce capital resources to address the replacement or conversion of equipment reliant upon CFC refrigerants. The project will utilize a consistent strategy for assessment of requirements to maintain credibility, and a funding approach based on technical and budget priorities to systematically reduce risk and insult to the ozone and environment while protecting worker and public safety and maintaining critical program activities.

The subprojects identified in this section (new starts) represent the highest priority efforts given the current equipment conditions, site mission status, environmental and/or regulatory compliance information, etc. However, site requirements, unexpected regulatory or safety driven issues, or equipment failures may result in a re-prioritization of the activities proposed under this project. Subproject changes will be discretely identified once approved through the Baseline Change Control (BCC) process.

The FY 1998 budget request will provide funding to complete the CFC HVAC/Chiller retrofit projects.

The following is a brief description and justification for each of the chiller subprojects proposed:

Subproject 02: Tritium, Phase I

<u>TEC</u>	<u>Previous</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Construction Start - Completion Dates</u>
\$ 1,500	\$ 0	\$ 1,500	\$ 0	\$ 0	\$ 0	3rd. Qtr. FY 1996 - 1st. Qtr. FY 1997

Replacement of one 445-ton chiller in Bldg. 234-H which is currently inoperable..

Subproject 03: Tritium, Phase II

<u>TEC</u>	<u>Previous</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Construction Start - Completion Dates</u>
\$12,063	\$ 0	\$ 0	\$ 8,541	\$ 3,522	\$ 0	2nd. Qtr. FY 1997 - 4th Qtr. FY 1999

Consolidate eight chillers into a central four chiller plant providing 1,350 tons of cooling. Convert two 658-ton chillers to a non-CFC refrigerant. FY 1998 funding will complete construction on the consolidated chiller plant and complete the conversion of the two 658-ton chillers. One chiller in Building 249-H will be replaced.

1. Title and Location of Project:	CFC HVAC/Chiller Retrofit, Savannah River Site, Aiken, South Carolina	2a. Project No. 96-D-471	ADS# SR-7262
		2b. Construction Funded	

8. Project Description, Justification and Scope (Continued)

\* Subproject 04: F-Canyon / Analytical Laboratories

<u>TEC</u>	<u>Previous</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Construction Start - Completion Dates</u>
\$10,700	\$ 0	\$ 0	\$ 0	\$ 10,700	\$ 0	2nd. Qtr. FY 1998 - 3rd. Qtr. FY 1999

\* Replace ten chillers with a total capacity of 3,720 tons. Consolidation of chillers into a central chiller plant will be considered.

\* Subproject 05: H-Canyon/HB Line

<u>TEC</u>	<u>Previous</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Construction Start - Completion Dates</u>
\$ 4,919	\$ 0	\$ 0	\$ 0	\$ 4,919	\$ 0	3rd. Qtr. FY 1998 - 3rd. Qtr. FY 2001

\* Replace two 350-ton chillers in 221-H. Replace one 10-ton chiller and convert one 160-ton chiller in 221-HBL to a non-CFC refrigerant.

\* Subproject 06: S Area

<u>TEC</u>	<u>Previous</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Construction Start - Completion Dates</u>
\$ 6,484	\$ 0	\$ 0	\$ 0	\$ 6,484	\$ 0	3rd. Qtr. FY 1999 - 2nd Qtr. FY 2001

\* Replace six chillers with a total capacity of 2,540 tons.

\* Subproject 07: 299-H

<u>TEC</u>	<u>Previous</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Construction Start - Completion Dates</u>
\$ 1,481	\$ 0	\$ 0	\$ 0	\$ 1,481	\$ 0	4th. Qtr. FY 1999 - 3rd Qtr. FY 2000

\* Replace one 400 ton chiller.

1. Title and Location of Project:	CFC HVAC/Chiller Retrofit, Savannah River Site, Aiken, South Carolina	2a. Project No. 96-D-471	ADS# SR-7262
		2b. Construction Funded	

8. Project Description, Justification and Scope (Continued)

\* Subproject 08: 235-F

<u>TEC</u>	<u>Previous</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Construction Start - Completion Dates</u>
\$ 2,984	\$ 0	\$ 0	\$ 0	\$ 2,984	\$ 0	1st. Qtr. FY 2000 - 2nd Qtr. FY 2001

\* Replace two chillers with a total capacity of 350 tons.

\* Subproject 09: D-Area

<u>TEC</u>	<u>Previous</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Construction Start - Completion Dates</u>
\$ 1,309	\$ 0	\$ 0	\$ 0	\$ 1,309	\$ 0	1st. Qtr. FY 2000 - 3rd Qtr. FY 2002

\* Replace two chillers with a total capacity of 120 tons.

\* Subproject 10: A-Area

<u>TEC</u>	<u>Previous</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Construction Start - Completion Dates</u>
\$ 2,370	\$ 0	\$ 0	\$ 0	\$ 2,370	\$ 0	1st. Qtr. FY 2000 - 3rd Qtr. FY 2002

\* Replace two chillers.

\* Subproject 11: 247-F

<u>TEC</u>	<u>Previous</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Construction Start - Completion Dates</u>
\$ 469	\$ 0	\$ 0	\$ 0	\$ 469	\$ 0	1st. Qtr. FY 2000 - 2nd Qtr. FY 2001

\* Replace one chiller.

1. Title and Location of Project:	CFC HVAC/Chiller Retrofit, Savannah River Site, Aiken, South Carolina	2a. Project No. 96-D-471	ADS# SR-7262
		2b. Construction Funded	

\* 8. Project Description, Justification and Scope (Continued)

\* Subproject 01: 777-10A

<u>TEC</u>	<u>Previous</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>Construction Start - Completion Dates</u>
\$ 721	\$ 0	\$ 0	\$ 0	\$ 721	\$ 0	1st. Qtr. FY 2001 - 2nd Qtr. FY 2001

\* Replacement/retrofit one 200-ton chiller for a non-CFC refrigerant.

\*

#### EXECUTION CONSIDERATIONS

The two principal options for addressing existing CFC dependent chiller/HVAC systems are: 1) conversion (retrofits) and 2) replacement.

- Conversion (retrofit) of the equipment to use alternative non-ozone depleting refrigerants such as Hydrochlorofluorocarbon (HCFC) or Hydrofluorocarbon (HFC). Conversion needs to consider the impact on the materials utilized in chiller construction (e.g., corrosive effect of alternative refrigerants upon chiller seals) and the impact on equipment performance.
- Replacement of the equipment with new non-CFC dependent equipment.

Consideration/evaluation of the conversion versus replacement decision include:

Age of the chillers;

Performance of the existing chillers; machine capability; relative efficiency, maintainability, and reliability;

Life cycle cost analyses;

Spare part availability;

Current system capacity margin and future growth requirements; System impact on the site and facility mission and mission urgency; and accessibility issues and structural modifications that may be necessary to accommodate a replacement.

In summary, as equipment approaches the end of its useful life, replacement may appear to be an obvious choice. However, the decision for replacement will not be made until installation costs have been adequately addressed (i.e., removal of existing equipment, accessibility for the placement of new equipment, equipment tie-in points, and new support equipment). The final decision to convert or replace can only be made following a case-by-case engineering evaluation which considers all of the above factors. Private industry involvement and practices will be employed to the greatest extent possible.

1. Title and Location of Project:	CFC HVAC/Chiller Retrofit, Savannah River Site, Aiken, South Carolina	2a. Project No. 96-D-471	ADS# SR-7262
		2b. Construction Funded	

9. Details of Cost Estimate

This cost estimate is based upon direct field inspection data coupled with parametric cost data and completed conceptual studies and designs when available.

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and management costs .....		\$ 3,620
1. Engineering design and inspection at approximately 6.8 percent of construction costs (item c) .....	\$ 2,192	
2. Construction management costs .....	0	
3. Project management at 4.4 percent of construction costs (item c) .....	1,428	
b. Land and land rights .....		0
c. Construction costs .....		32,263
1. Improvements to land .....	0	
2. Buildings .....	0	
3. Electrical and instrumentation .....	0	
4. Other structures .....	0	
5. Utilities .....	0	
6. Special facilities .....	32,263	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
Subtotal .....		\$ 35,883
h. Contingency at approximately 25 percent of above costs .....		<u>9,117</u>
i. Total line-item cost (Section 11.a.1.(a)) .....		\$ 45,000
j. Less: Non-Federal contribution .....		<u>0</u>
k. Net Federal Total Estimated Cost (TEC) .....		<u><u>\$ 45,000</u></u>

The DOE escalation rates (percent per year) used for this estimate are as follows:

<u>Fiscal Year</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Escalation	3.2	2.7	2.8	3.0	3.0	3.0

The above estimate includes \$2,433,257 for escalation.

1. Title and Location of Project:	CFC HVAC/Chiller Retrofit, Savannah River Site, Aiken, South Carolina	2a. Project No. 96-D-471	ADS# SR-7262
		2b. Construction Funded	

10. Method of Performance

Installation of replacement equipment and system conversions (retrofits) will be performed to the greatest extent feasible through competitive solicitations or competitively selected service contracts. Procurement will be accomplished to the maximum extent practical through competitively bid solicitations and contracts.

11. Schedule of Project Costs and Other Related Cost Requirements

	Previous Years	FY 1996	FY 1997	FY 1998	Outyears	Total
a. Total Project Costs						
1. Total Facility Costs .....	\$ 0	\$ 699	\$ 8,463	\$ 8,348	\$ 27,490	\$ 45,000
(a) Line-Item (Section 9.i.) .....	0	0	0	0	0	0
(b) Plant Engineering and Design .....	0	0	0	0	0	0
(c) Operation Expense Funded Equipment .....	0	0	0	0	0	0
(d) Inventories .....	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total Facility Cost (Federal and Non-Federal) .....	\$ 0	\$ 699	\$ 8,463	\$ 8,348	\$ 27,490	\$ 45,000
2. Other Project Costs						
(a) R&D Necessary to Complete Project .....	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual Design Costs .....		0	0	0	0	0
(c) Decontamination & Decommissioning (D&D) ....	0	0	0	0	0	0
(d) NEPA Documentation Costs .....	0	0	0	0	0	0
(e) Other Project-Related Costs .....	<u>587</u>	<u>423</u>	<u>1,950</u>	<u>2,490</u>	<u>8,050</u>	<u>13,500</u>
(f) Total Other Project Costs .....	<u>\$ 587</u>	<u>\$ 423</u>	<u>\$ 1,950</u>	<u>\$ 2,490</u>	<u>\$ 8,050</u>	<u>\$ 13,500</u>
(g) Total Project Cost .....	\$ 587	\$ 1,122	\$ 10,413	\$ 10,838	\$ 35,540	\$ 58,500
(h) Less: Non-Federal Contribution .....	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal Total Project Cost (TPC) .....	\$ 587	\$ 1,122	\$ 10,413	\$ 10,838	\$ 35,540	\$ 58,500

1. Title and Location of Project:	CFC HVAC/Chiller Retrofit, Savannah River Site, Aiken, South Carolina	2a. Project No. 96-D-471	ADS# SR-7262
		2b. Construction Funded	

11. Schedule of Project Costs and Other Related Cost Requirements (continued)

b. Related Annual Costs (estimated life of project)	
1. Facility Operating Costs .....	\$ 0
2. Facility Maintenance and Repair Costs .....	1,953
3. Programmatic operating expenses directly related to the facility .....	0
4. Capital equipment not related to construction but related to the programmatic effort in the facility .....	0
5. GPP or other construction related to the programmatic effort in the facility .....	0
6. Utility Costs .....	1,338
7. Other Costs .....	83
Total Related Annual Costs .....	\$ 3,374

12. Narrative Explanation of Total Project Costs and Other Related Funding Requirements

- a. Total Project Funding
  - 1. Total Facility Costs
    - (a) Line Item--construction line item costs for design, procurement, and construction.
    - (b) Plant Engineering and Design--None.
    - (c) Expense Funded Equipment--None.
    - (d) Inventories--None.
  - 2. Other Project Costs
    - (a) R&D Necessary to Complete Construction--None.
    - (b) Conceptual Design--None.
    - (c) Decontamination & Decommissioning (D&D)--None.
    - (d) NEPA Documentation--None.
    - (e) Other Project-Related Costs--\$13,500,000 calculated as percentage of TEC.
- b. Related Annual Costs
 

Annual operating cost will be required as a result of improved system reliability and higher efficiencies.



DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from the FY 1997 Congressional Budget Request are denoted by a vertical line in the left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project:	Upgrade Site Road Infrastructure, Savannah River Site, Aiken, South Carolina	2a. Project No.: 95-D-155	ADS# SR-7264
		2b. Construction Funded	

SIGNIFICANT CHANGES

- No significant changes.

DEPARTMENT OF ENERGY  
 FY 1998 CONGRESSIONAL BUDGET REQUEST  
 (Changes from the FY 1997 Congressional Budget Request are denoted by a vertical line in the left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project: Upgrade Site Road Infrastructure, Savannah River Site, Aiken, South Carolina	2a. Project No.: 95-D-155 2b. Construction Funded	ADS# SR-7264
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3a. Date A-E Work Initiated (Title I Design Start Scheduled): 2nd Qtr. FY 1995  3b. A-E Work (Titles I & II) Duration: 19 months	5. Previous Cost Estimate: Total Estimated Cost (TEC) -- \$10,500 Total Project Cost (TPC) -- \$11,370
--	--

4a. Date Physical Construction Starts: 4th Qtr. FY 1996  4b. Date Construction Ends: 4th Qtr. FY 1998	6. Current Cost Estimate: TEC -- \$10,500 TPC -- \$11,370
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7. Financial Schedule (Federal Funds):

<u>Fiscal Year</u>	<u>Appropriations</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1995	\$ 750	\$ 0	\$ 750	\$ 618
1996	2,900	0	2,532	994
1997	4,137	0	4,137	3,800
1998	2,713	0	3,081	5,088

Project:	Upgrade Site Road Infrastructure, Savannah River Site, Aiken, South Carolina	1.	Title and Location of
		2a. Project No.: 95-D-155	ADS# SR-7264
		2b. Construction Funded	

8. Project Description, Justification and Scope

The Upgrade Site Road Infrastructure project provides for replacement of four bridges. The bridge replacement includes the 2-lane bridge on Road F, two 4-lane bridges on Road C, and the clover leaf bridge at Road 2 and Road C.

Bridges 603-2G and 603-3G are constructed on timber piles. Recent inspections show section loss on these piles ranging from 5 percent to 90 percent. The five-year inspection of SRS bridges have identified 603-1G and 603-67G to be in need of immediate replacement. Due to their inability to support designated loads, both of these bridges have been de-rated causing the re-routing and restricting of heavy loads, including; logging trucks, concrete trucks supporting ongoing construction; and the High Activity Waste Trailer that supports the Savannah River Technology Center. Currently, these bridges must be monitored closely during the passage of very heavy loads and must be inspected twice yearly, versus the normal five year cycle, to assess the load carrying capacity and safety. These bridges require replacement in order to safely carry their design loads.

The annual maintenance and repair costs are estimated to be \$46,000. This includes cleaning of bridge deck, incidental striping and marking, bridge and road shoulder inspection, and maintenance of bridge bearing assemblies.

\* FY 1998 funds will be used to complete construction of the bridges.

NOTE: This project transferred to Environmental Management from Defense Programs in FY 1996.

Project:	Upgrade Site Road Infrastructure, Savannah River Site, Aiken, South Carolina	1.	Title and Location of
		2a. Project No.: 95-D-155	ADS# SR-7264
		2b. Construction Funded	

Detail of Cost Estimate a/

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management Costs .....		\$ 1,900
1. Engineering, Design and Inspection at approximately 19.9 percent of Construction Costs (item c) (Design, Drawings, and Specifications: \$520,000) .....	\$ 1,240	
2. Construction Management Costs at 6.7 percent of Construction Costs (item c) .....	420	
3. Project Management at 3.8 percent of Construction Costs, (item c) .....	240	
b. Land and Land Rights .....		0
c. Construction costs .....		6,244 b/
1. Improvements to Land .....	0	
2. Buildings .....	0	
3. Other Structures (Bridges) .....	6,244	
4. Utilities .....	0	
5. Special Facilities .....	0	
d. Standard Equipment .....		0
e. Major Computer Items .....		0
f. Removal Cost Less Salvage .....		600
g. Design and Project Liaison, Testing, Checkout and Acceptance .....		<u>0</u>
Subtotal .....		\$ 8,744
h. Contingencies at Approximately 20 Percent of Above Costs .....		<u>1,756</u>
i. Total Line-Item Cost (Section 11.a.1.(a)) .....		\$ 10,500
j. Less: Non-Federal Contribution .....		<u>0</u>
k. Net Federal Total Estimated Cost (TEC) .....		\$ 10,500

The Department of Energy (DOE) March 1995 escalation rates (percent per year) used for this estimate are as follows:

<u>Fiscal Year</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>
Escalation	3.0	3.1	3.1

The above estimate includes \$228,000 for escalation.

a/ The estimate is based on a completed design.

b/ Construction Cost Estimate increased due to quantity increases resulting from accurate survey data.

Project:	Upgrade Site Road Infrastructure, Savannah River Site, Aiken, South Carolina	1.	Title and Location of
		2a. Project No.: 95-D-155	ADS# SR-7264
		2b. Construction Funded	

10. Method of Performance

Title I and Title II design was performed by the Corps of Engineers. Procurement and project management will be performed through the Corps of Engineers or the M&O contractor.

11. Schedule of Project Funding and Other Related Funding Requirements

	Previous Years	FY 1996	FY 1997	FY 1998	Outyears	Total
a. Total project costs						
1. Total Facility Costs						
(a) Line Item (Section 9 i.)	\$ 618	\$ 994	\$ 3,800	\$ 5,088	\$ 0	\$ 10,500
(b) Plant Engineering and Design	0	0	0	0	0	0
(c) Operating Expense Funded Equipment	0	0	0	0	0	0
(d) Inventories	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total Facility Costs (Federal and Non-Federal)	\$ 618	\$ 994	\$ 3,800	\$ 5,088	\$ 0	\$ 10,500
2. Other Project Costs						
(a) R&D Necessary to Complete Project	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual Design Costs	240	0	0	0	0	240
(c) Decontamination and Decommissioning (D&D)	0	0	0	0	0	0
(d) NEPA Documentation Costs	117	0	0	0	0	117
(e) Other Project Related Costs	<u>157</u>	<u>49</u>	<u>150</u>	<u>150</u>	<u>7</u>	<u>513</u>
(f) Total Other Project Costs	\$ <u>514</u>	\$ <u>49</u>	\$ <u>150</u>	\$ <u>150</u>	\$ <u>7</u>	\$ <u>870</u>
(g) Total Project Cost	\$ 1,132	\$ 1,043	\$ 3,950	\$ 5,238	7	\$ 11,370
(h) Less: Non-Federal Contribution	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal Total Project Cost (TPC)	\$ 1,132	\$ 1,043	\$ 3,950	\$ 5,238	\$ 7	\$ 11,370

Project:	Upgrade Site Road Infrastructure, Savannah River Site, Aiken, South Carolina	1.	Title and Location of
		2a. Project No.: 95-D-155	ADS# SR-7264
		2b. Construction Funded	

11. Schedule of Project Funding and Other Related Funding Requirements (Continued)

b. Related annual costs (estimated life of project--30 years)	
1. Facility operating costs .....	\$ 0
2. Facility maintenance and repair costs .....	46
3. Programmatic operating expenses directly related to the facility .....	0
4. Capital equipment not related to construction but related to the programmatic effort in the facility .....	0
5. GPP or other construction related to the programmatic effort in the facility .....	0
6. Utility costs .....	0
7. Other costs .....	0
Total Related Annual Costs .....	\$ 46

12. Narrative Explanation of Total Project Funding and Related Funding Requirements

- a. Total project funding
  1. Total facility costs
    - (a) Line item--Narrative not required.
    - (b) Plant Engineering and Design--None.
    - (c) Operating Expense funded equipment--None.
    - (d) Inventories--None.
  2. Other project costs
    - (a) R&D necessary to complete construction--None.
    - (b) Conceptual Design--\$240,000 includes the cost in FY 1993 for the preparation of the conceptual design report.
    - (c) Decontamination and Decommissioning (D&D)--None.
    - (d) NEPA Documentation (Costs)--\$117,000 includes costs for an Environmental Assessment, environmental permits and the HEC II Study.
    - (e) Other project-related costs--\$513,000 includes the cost for part time operational tech support.

Project: Upgrade Site Road Infrastructure, Savannah River Site, Aiken, South Carolina		1. 2a. Project No.: 95-D-155 2b. Construction Funded	Title and Location of ADS# SR-7264
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12. Narrative Explanation of Total Project Funding and Related Funding Requirements (Continued)

- b. Related annual costs
  - 1. Facility operating costs--None.
  - 2. Facility maintenance and repair costs--\$46,000 includes cleaning of bridge deck, incidental striping and marking, bridge and road shoulder inspection and maintenance of bridge bearing assemblies. (5 FTE)
  - 3. Programmatic operating expenses directly related to the facility--None.
  - 4. Capital equipment not related to construction but related to the programmatic effort in the facility--None.
  - 5. GPP or other construction related to the programmatic effort in the facility--None.
  - 6. Utility costs--None.
  - 7. Other costs--None.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 97 Congressional Budget Request are denoted with a vertical line in left margin)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project:	Security Facilities Consolidation, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho <u>a/</u>	2a. Project No.: 95-D-456 2b. Construction Funded	ADS# ID-6326-WN
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SIGNIFICANT CHANGES

- No significant changes.



DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from the FY 1997 Congressional Budget Request are denoted by a vertical line in the left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Nuclear Material and Facility Stabilization

1. Title and Location of Project: Security Facilities Consolidation, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 95-D-456 2b. Construction Funded
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ADS# ID-6326-WN

3a. Date A-E Work Initiated: 2nd Quarter FY 1995 3b. A-E Work (Titles I & II) Duration: 45 months	5. Previous Cost Estimate Total Estimated Cost (TEC) -- \$15,100 Total Project Cost (TPC) -- \$18,901
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4a. Date Physical Construction Starts: 1st Quarter FY 1996 4b. Date Construction Ends: 2nd Quarter FY 1999	6. Current Cost Estimate: TEC -- \$15,100 TPC -- \$18,901
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7. Financial Schedule (Federal Funds)

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1995	\$ 986	\$ 0	\$ 986	\$ 554
1996	8,382	0	8,382	2,933
1997	4,645	0	4,645	7,410
1998	1,087	0	602	2,788
1999	0	0	485	1,415

1. Title and Location of Project:	Security Facilities Consolidation, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 95-D-456 2b. Construction Funded
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8. Project Description, Justification and Scope

This project will construct new facilities and install new equipment to support the Idaho Chemical Processing Plant (ICPP) security organization by resolving DOE Order compliance (DOE Orders 5632.1C and 5500.3A), inspection and evaluation findings, and address life expectancy/life cycle replacement concerns. The project will also accommodate changes to the ICPP mission, decrease plant operating costs, and support environmental remediation projects.

During the mission execution of the ICPP, Category I and II quantities of Special Nuclear Material (SNM) will be consolidated at two existing ICPP storage facilities. The project will construct two new protected area security perimeters, complying with DOE Order 5632.2A at the existing storage facilities. Security perimeters will include guardhouses, a central alarm station (CAS), complementary intrusion detection systems at each perimeter, security fencing, lighting systems, vehicle barriers, a closed-circuit television (CCTV) system for alarm assessment, and a security alarm control system (SACS) to monitor all security sensors and assessment systems. Guardhouses will provide space for access control equipment to monitor personnel and vehicular access into the protected areas, and will be served with standard utilities. Construction of new security upgrades at these two locations will allow deactivation, by this project, of the existing security perimeter surrounding the overall ICPP site. Classified interests located outside of the new protected areas will be consolidated at approximately six existing facilities.

The SACS will monitor, control, and assess security alarms and video information received from new intrusion detection and CCTV systems located in the protected areas, and existing security systems throughout the ICPP. The SACS will consist of redundant computers, video assessment equipment (cameras, monitors, controllers, recorder, switches, fiber-optic distribution), and alarm system interfaces. Security lighting will be installed at the new protected areas to support CCTV operations and security inspections. Security systems will be supplied with commercial, optional standby, and uninterruptible electrical power.

Three existing access control facilities at the present ICPP protected area security perimeter will be remodeled to function as Property Protection Area entrances. These facilities will support required security inspections, provide a radiological contamination control point, and support personnel accountability during emergency evacuations.

Existing security lighting, intrusion detection and assessment systems, and the SACS have reached their design life expectancies and require life cycle replacement. System manufacturers no longer support the dated equipment with service contracts or provide replacement spare parts. Studies, including General Accounting Office report GAO/RCED-95-183, indicate that this project will reduce security operating costs at the ICPP by approximately \$3,900,000 per year and result in a project payback period of 5 years.

| The FY 1998 appropriation will be used to complete project construction.

1. Title and Location of Project:	Security Facilities Consolidation, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 95-D-456 2b. Construction Funded
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9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and management costs .....		\$ 3,236
1. Engineering design and inspection at approximately 31.5 percent of construction costs (item c) .....	\$ 1,278	
2. Construction management costs at approximately 22.0 percent of construction costs (item c) .....	895	
3. Project management at 26.2 percent of construction costs (item c) .....	1,063	
b. Land and land rights .....		0
c. Construction costs .....		4,062
1. Improvements to land .....	207	
2. Buildings .....	1,810	
3. Other structures .....	0	
4. Utilities .....	1,945	
5. Special facilities .....	100	
d. Standard equipment .....		5,285
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
h. Subtotal (a through g) .....		\$ 12,583
i. Contingencies at approximately 20 percent of above costs .....		<u>2,517</u>
j. Total line item cost (Section 11.a.1.[a]) .....		\$ 15,100
k. Less: Non-Federal contribution .....		<u>0</u>
l. Net Federal total estimated cost (TEC) .....		<u>\$ 15,100</u>

10. Method of Performance

Design will be performed by an architectural-engineering (A-E) organization. To the extent feasible, construction and procurement shall be accomplished by fixed price contracts and subcontracts awarded on the basis of competitive bidding. Title III inspection will be accomplished by the operating contractor.

1. Title and Location of Project: Security Facilities Consolidation,  
Idaho Chemical Processing Plant,  
Idaho National Engineering Laboratory, Idaho

2a. Project No.: 95-D-456  
2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements

	Previous Years	FY 1996	FY 1997	FY 1998	Outyears	Total
a. Total project costs						
1. Total facility costs						
(a) Line item (Section 9.j.)	\$ 554	\$ 2,933	\$ 7,410	\$ 2,788	\$ 1,415	\$ 15,100
(b) Plant engineering and design	0	0	0	0	0	0
(c) Operating expense funded equipment	0	0	0	0	0	0
(d) Inventories	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total facility cost (Federal and Non-Federal)	\$ 554	\$ 2,933	\$ 7,410	\$ 2,788	\$ 1,415	\$ 15,100
2. Other project costs						
(a) R&D necessary to complete project	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs	2,279	0	0	0	0	2,279
(c) Decontamination and decommissioning (D&D)	0	0	0	0	0	0
(d) NEPA documentation costs	61	0	0	0	0	61
(e) Other project-related costs	<u>219</u>	<u>158</u>	<u>391</u>	<u>212</u>	<u>481</u>	<u>1,461</u>
(f) Total other project costs	<u>\$ 2,559</u>	<u>\$ 158</u>	<u>\$ 391</u>	<u>\$ 212</u>	<u>\$ 481</u>	<u>\$ 3,801</u>
(g) Total project cost	\$ 3,113	\$ 3,091	\$ 7,801	\$ 3,000	\$ 1,896	\$ 18,901
(h) Less: Non-Federal contribution.	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal total project cost (TPC)	<u>\$ 3,113</u>	<u>\$ 3,091</u>	<u>\$ 7,801</u>	<u>\$ 3,000</u>	<u>\$ 1,896</u>	<u>\$ 18,901</u>
b. Related annual costs (estimated useful life of the facility--20 to 40 years)						
1. Facility operating costs						\$ 1,000
2. Facility maintenance and repair costs						500
3. Programmatic operating expenses directly related to the facility						300
4. Capital equipment not related to construction but related to the programmatic effort in the facility						0
5. GPP or other construction related to programmatic effort in the facility						0
6. Utility costs						20
7. Other costs						<u>0</u>
Total related annual costs						<u>\$ 1,820</u>

1. Title and Location of Project:	Security Facilities Consolidation, Idaho Chemical Processing Plant, Idaho National Engineering Laboratory, Idaho	2a. Project No.: 95-D-456 2b. Construction Funded
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12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

- a. Total project funding
  - 1. Total facility costs
    - (a) Line item--The TEC is based on a detailed conceptual cost estimate, dated February 4, 1994. Estimate is based on conceptual drawings, vendor quotations, experience gained from prior security-related projects, and work defined by the Conceptual Design Report.
    - (b) Plant engineering and design--None.
    - (c) Expense-funded equipment--None.
    - (d) Inventories--None.
  - 2. Other project costs
    - (a) R&D necessary to complete construction--None.
    - (b) Conceptual design--An estimated \$2,279,000 was spent on the following activities: Conceptual design, advanced conceptual design, project management plans, quality assistance program plan, feasibility studies, value engineering, and project design criteria. Conceptual design costs include costs of redesign resulting from changes to project work scope and costs for installation of security items for testing and evaluation purposes.
    - (c) Decontamination and decommissioning (D&D)--None.
    - (d) NEPA documentation--\$61,000 was spent on the: Environmental checklist/categorical exclusion, air quality permits, and permits to construct.
    - (e) Other project related costs--An estimated \$1,461,000 will be spent on the following activities: (a) testing and startup support, (b) readiness reviews for startup and operation, (c) operating tests, (d) training of operating and maintenance personnel, and (e) technical support.
- b. Related annual costs
  - 1. Facility operating costs include operating labor costs--\$1,000,000.
  - 2. Facility maintenance and repair costs include spare parts and maintenance costs--\$500,000.
  - 3. Programmatic operating expenses directly related to the facility include SACS software maintenance fee--\$300,000.
  - 4. Capital equipment cost not related to construction but related to the programmatic effort in the facility--None.
  - 5. GPP or other construction related to the programmatic effort in the facility--None.
  - 6. Utility costs--\$20,000.
  - 7. Other costs--None.